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## REPORT

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## INVESTIGATION

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## INDIGENOUS DRUGS

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M．R．Ry．Rao Bahador M．C．Koman ayargal，l．m．\＆s．

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I haye the honour to submit the report on the investigation into indigenous--drugs from 12th July, the date of my assuming charge of the affice, to $51 /$ st (Jctober 1918.
2. Preliminary work. -To get an insight into the nature of the work I had to carry out, I considered it necessary that I should acquire a preliminary knowledge of the properties of some of the drugs and their compounds by acquainting myself with what was stated about them in somie of the well-known Ayurvedic works and by observing practically their methods of preparation, application and administration. The works of U. C. Dutt, K. L. Dey, 'Pharmacographia Indica, Mohideen Sheriff's works, N. N. Sen's Ayurveda; Susruhta (English translation), Charaka (Malayalam. translation) and several Ayurvedic compilations in Malayalam were of mach help to: me in conduoting my investigation. As for the practical portion of my work, I made -it a point to visit the local Ayurvedic dispensaries as often as possible and to observe and note what was being done in those institutions. During these visits, I was able to gather information with regard to the methods adopted in the preparation of drugs and their compounds, methodss of diagnosing diseases and also the various methods of treatment. The apparatuses whieh are used in the Ayurvedic pharmacies are all antiquated and require considerable modifications in the light of modern scientific knowledge. Those who practise Ayurveda in the city with a few exceptions were all willing to help me in conducting my investigations. I cannot say the eame of the Unani physicians; with the exception of. Hakim Shiffai-ul-mulk Zianalabhdteen Sahib Babadur and Hakim Maghddum Asaraff Sahib Babadur, who were kind enough to give me a few prescriptions, they were either reticent or unwilling to render any help. One of the Unani hakime when asked by the Surgeon-General; if he would divulge the composition and method of preparation of apy of his secret remedier, replied that he could not afford to lose his living by such a procedure. No doubt the Surgeon-General admired him for the courage of his conviction, but at the same time was sorry to see even in a venerable hakim an agent to debase the ethics of a noble profession. As my knowledge in the theory and experience in the pratice of A yurveda were not sufficient to anable me to prescribe medicines for diseases, I had to select suitable patients at the General Hospital, to whom to fit the medicines which I was gradually collecting. The selection of cases was a difficult task which any one can easily understand when one had to find diseases to suit medicines. This work of investigatiou cannot be well conducted in an out-patient dispensary, as it would be difficult to trace the whereabouts of the patients for purposes of sorreotly noting
results. My thanks are due to the Medical officers of the General Hospital for their kindmess in placing under my treatment patients whom I wanted to traat with Ayurvedio or Unani medicines. I have also to thank Vaidya Ratna Pandit D. Gopala Acharla and Pandit Kannappa Mudaliyar for several free samples of medicines given by them for experimental purposes. I am obliged to the staffs of the local Ayurredic dispensaries for permitting me to observe the work done in those institutions, although at times my visits must have inoonvenienced them to some extent. I have devoted my attention chiefly to studying the therapeutioal actions of the drugs and of compound preparations in general use, which I have been able to collect. To make a pharmocological reesarch into these, would require a well-equipped laboratory with a staff. of duly-qualified and competent physiologists and chemiats who have had a previous training in such work. Even the work of investigation which I am now doing, viz., a study of the therapeutical actions of the drugs of Ayurvedic and Unani systems, will take at least two or three years before it is completed. I therefore request that I may be permitted to submit annual reports on it. The work here has been sufficient to keep me fully engaged and there is still enough of material for further investigation. I have not therefore been able to go on tour'hitherto, but as recently the services of a Sub-Assistant Surgeon and a small stafi have been eanctioned for me, I intend touring in the distriets shortly for collecting materials for investigation.

## 3. Seven annexures are appended to this report-

(1) Notes on drugs and compounds which have been investigated.
(2) Summary of the notes on medicines investigated, found useful and recommended for further trial.
(3) The composition and the methods of preparations of those mentioned in No. (1).
(4) The composition and the methods of preparation of the drugs collected but not investigated.
(5) Statement showing the diseases treated at the General Hospital with Ayurvedic medicines and results.
(6) Chemical Examiner's report on analysis of drugs.
(7). Copies of circular letters sent to the District Medical and Sanitary Officers and Civil Surgeons.
(8) Copies of circular letters sent to the Collectors of districts.
4. In selecting diseases I have generally avoided taking up for Ayurvedio treatment very serious cases, as, as a novice, I did not wish to bring the method of treatment into disrepute.
5. 1 would suggest that the drags and compounds whose properties have been already investigated by me and found efficacious may be given a fair trial in the various hospitals in the . Presidency and reported apon by the Medical officers in charge.
6. When investigation into a fairly large number of drugs has been oompleted, I sball submit a statement showing the comparative values of the drugs investigated by me and those already in use.
.7. In conclusion, I have to state that I began this work with much, diffidence and that the mental strain involved in conducting it was considerable. I have therefore to thank Major-General G. G. Giffard, o.s.1., I.M.S., for his kind advice on many occasions and for encouraging me in every way in the conduct of these investigations.

I have the honour to be,
Sir,
Your most obedient servant,

M. C. KOMAN,<br>Honorary Physicran.

## APPENDIX I <br> Properties and actions of the drugs and compound preparations adminzstered to patients up to the date of the report.

## SINGLE DRUGS.

1. Mocharas-Bombax Malabaricam-

Natural order-Malvaceæ.
Esnskrit-Salmili.
Tamil and Malayalam-Mullilavamaram.
This is the gam obtained from Bombax Malabarieum (vide presoription No. 4).
Therapeutic uses.-This gum is an astringent, demuloent and hæmostatio. This was tried in two cases of chronic dysentery, in hmmoptysis of palmonary tubercalosis and influenza, hæmatemisis, malmaa and menorrhagia and acute dysentery with very benefioial results. The blood disappeared from the vomited and purged matters in two or three doses of 40 grains each, but in aonte and chronic dysentery its action was slow and had to be acoelerated by the addition of other drugs like holarriena anti-dysenterica, pomegranate rind, eto.

Chemical composition.-When macerated in water this gam affords a reddish brown solution which gives a dirty greenish precipitate with ferrio salt. The solution contains a little gam precipitatei by aloohol. The bulk of the deug remains undissolved (Pharmacographia Indios).
2. Bamboo Manna-Bambusa Arundinaceæ-

Natural order-Graminæ.
Sanskrit-Vansloohana.
Tamil - Mangalluppu (vide preseription'No. 3).
The sileceous concretions found in the joints of the femala bamboo (bambusa arundinacem). Tabasheer is its Hindustani name. Small irregularly-shaped fragments of opaque white -or bluish opalascent colour. 'I'bé larger pieces are concave or convex and have evidently derived their form in the joints of the bamboo in which thes are found as deposits.

Therapeutic action.-It is said to possess cooling, tonio and aphrodisiac properties and is given for the relief of asthma, oough of consgmption and in hectic feyer with oough.

It enters into the composition of numerous presoriptions for the affeetions of the lungs; two of the most common are Sithopaladi ohurnam and Taliayadi churnam,

The latter vide preacription No. 3 (b)-has been tried by me in pulmonary tuberculosis, in intestinal tuberculosis with heotic fever, in aoute and ohronio bronchitis and in bronohitis following influenza. It gave a certain amount of relief in pulmonary tuberculosis and in bronohitis in allaying cough, bpt the aotion was very slow. It did not have any effect on the hectio fever of tuberole. A oase of bronchitis after influenza was benefited by its nae.

## 3. - Veppalai-Holarrhena anti-dysenterica-

Natural order-Apocynaca.
'lellioherry or COnessi bark. Sanskrit-Kataja (vide prescription No. 7).
The bark of this tree is one of the moat important artioles in the Hindu Materia Medica and is said to possess estringent, digestive and expectorant proparties. It is given either alone or in combination with other astringent drugs in oases of acute and ohronic dysentery, in piles, in painful dyspepsia and chronio ohest affeotions such as asthme, also in oolic and diuresis. The seeda or veppala-arisi are conaidered to be aatringent, anthelmintic, carminative and febrifuge. The expressed juiee of the bark is considered to be more effioacious in acute cases of dysentery thán the bark or the seeds. The bariz and seeds are usualy combined with other medicines, for example, Kataja arishtam, Kudaja panitham, Dadhumashtaka oharnam. I have found its compound preparations useful in cases of aonte and chronic dysentery and ohronio diarrhcea.

The action of the seeds when uncombined was found to be very slow. In a case of ohronic dysentery of long duration in which ammbe were found in the atools, a compound preparation - Kudaja with Salmili brought about a gradual cure.

Chemical compusition.-The lark and seeds contain a basic substance nemed wrightine which has a bitter taste and forms uncrystallisable salts with dilute acids.

## 4. Cleome viscosa-:

Nataral order-Capparidiæ (vide presoription No. 9).
Sanskrit-Adithya Bakhtha.
Tamil-Nayi-Velai.
The seeds of this plant are said to possess anthelmintio and rubefacient properties. Mohideen Sheriff reoommends the pare dried seeds as substitate for santonin. The dose reoommended is half to one drachm for adalts and half the quantity to ohildren to be given twioe a day for two days and followed on the third day by a dose of oastor-oil. I tried the drag -as per directions given above in an adult and in a child whose motions contained large number of ronnd worm ova, bnt the result was negative in both the patients.

## 5. Aconilven Heterophyllum-

Nataral order-Banunoaleone.
Sauskrit-Ativishs
Tamil-Atividyam (vide presaription No. 12).
I found it diffioult to get the ta herous roota (adividayam) of this plant in a pure state from the Madras basaars. The pore roote should break with a short starchy fraoture, should taste bitter without prodocing any acridity and tingling acnsation of the tongue. The pure drug was obtained from Malaber and tried in a oase of eoute dyeantery and in a came of ohronio enteritis. In both these casen, 30 grains of the drug were rabbed up in two ounces of buttormilk and given twice a day. Eight dosee were sufficient to oure the conte oses, the diet being arrowroot and milk. It took three weeks for the case of ohronio onteritis to get well, the patient being all the time on a diet of well-boiled rice and card. Mohideen Sherifi recommende its use as an antiperiodio in two drachm dosas. The appetite of the patients improved under ita ase. I consider it a valuable drog in commenoing soute dysentory. It enters into soveral compound preparations for dysentery and diarrhoes with fover.

Chemical composition. - Two nooryotallizable alkaloide are stated to be present in the root one of which is atisine. The other aubatances present are aconitio acid, tannio acid, cane angar, fat, staroh and vegetable muailage.
6. Adhatoda Vasica-

Natural order-Acantbasem.
Sanskrit-Vanaka.
Tamil-Adathoda.
Malayalam-Adalodam (vide presoription No.-10).
This plant is found in most parts of India. The fresh juice or deooction of the leaves or a decoction of the root (vide presoription) is generally administered as an expeotorant and antispasmodio in asthma, chronio bronohitis and consumption. The decootion of the roote is generally given combined with other expectoranta. This deooction was given in half a dozen cases with varying results. It did good in cases of chronic bronohitis but had not the alightent offect in pulmonary tuberculosia; on the other hand its use for a few days bronght on an attack of hmmoptysis in a case of pulmonary tuberculosis. Indian phyeioians eapecially on the west coast have high opinions of its efficacy in all pulmonary effeetions. It is ueeful in bronchial affections. Tre leaves are stated to contain an alkaloid known as vasicine in combination with an organic acid to which Dymook gives the name of adathodicacid.
7. Semicarpus Anacardium-

Natural order-Anacardiacem.
English-Marking not.
Tamil-Sheran kottai.
Sanskrit-Bhallataka (vide prescription No. 8).
This is a common drug in India. The fruit and the acrid oil whioh can be obtained from the fruit by expression or with the sid of heat with a certain amount of care are need medioinally. Both when used internally are said to be sedative, antispanmodio, nervine, digentive and alterative. Externally the oil is rubefacient and resioant. Mohideen Sheriff recommends its use in asthma, in recondary syphilis, dyspe psia, piles, neural gia, e pilepsy, leprosy, psoriasis and other cutaneous affections and nervons debility. He says that marking nut is held in high esteem as a therapentic agent by the Muhammadan practitioners in India, Persia and Arabia. The Ayurvedio physicians use it as a powerfal restorative tonic and recommend its use in chronic stomach complaints and diseases of the rectum. The"acrid oil may be given in one to two drachms doses mixed with mucilage and sagar or the nut itself may be given in the form of an electuary made by mixing one part of the nut, six parts of the kernel of cashewnut (anacardinm occidentale) and one part of clarified honey. Dose 1 to 24 draohms. Mohideen Sheriff cónsiders marking nut as a specific for acate rhenmatiom and says it is more sure and apeedy in its action than salicylate of soda. I treated a patient admitted into the General Hospital for acute rheumatim affecting the large joints with the eleotuary of marking nuts. He was discharged cured after having had the treatment for two weeka. In cases of chronio rheumatism in which it was given in the wards, the patients did not derive any berefit. I have seen its officacy in chronic complaints of the stomaoh, such as uloer and chronio gastritis. Kalyana ksharam given in the last-mentioned complaints contains marking nut as its princijal ingredient.

## 8. Withania Somnifera-

Natural order-Solanacæ.
Sanskrit-Aswagandha.
Tamil-A mmakkaran kizhangu (vide preseription No. 1).
The root is said to smell like a horse; hence the name Asvagandha.
The specimens I obtained from local bazasare did not possess any such odonr.
It is considered a tonic and aphrodieise by the Indian phyaicians wio use it, in general debility, rheumatism, consumption and loss of appetite. A patient with chronic gastritis and marked loss of appetite and general debility was given a full course of the powdered root aioue for a few weeks without any benefit. He was then put on aswagantha with vriddbadarak
(Argyria epeciosa) which is considered a very good tonic, with the same negative resolt. A
woman with hectic fover of taberale and marked general weakness was put on the same combi-
nation. The result was disappointing. In Indian Materia, Medica aswagandhe enters into the composition of sevaral medicines nsed as aphrodisiacs and as remedies for rheumatism.
9. Ipumea Turpethum-
(Natural order-Convolvalaom.)-
Sanskrit-Trivrit.
Tamil-Shivadavir (vide preecription No. 15).
There are two varietios of the root-the blaok and the white, the black is a powerful irritant and drastic and ahould be avoided. The white variety used by Indian physioians is a moderate or mild oathartio. I have used it as a mild hydrogague in the hospital in aonte constipation of fevers, ohronic constipation, in ascites with oirrhosis of liver, in enlargement of spleen and in all other cases where a pargative was considered necessary. The simple powder in 40 to 60 grains or the compound powder 60 to 90 grains-(vide presoription No. 15) may be administered to prodace the desired effeot. In its aotion, it is as efficacious if not better than jalap.

Chemical composition.-It contains a resin "tarpethine" which is similar in aotion and properties to jalapin, the resin of jalap. The drug is cheaper than jalap and may be used as an efficient substitute for it.
10. Eclipta Prostrata-

Natural order-Compositm.
Sanskrit-Kesaraja.
Tamil-Karishalanganni.
This weed grows in abundance in Madras in the rainy season and may be found in damp places at other times of the year. There are two varieties of the plant-the yellow flowered and the white flowered-the former variety has thicker leaves and are extensively used in catarrhal janndice. The freeh leases are well washed, ground with a few pepper corns and a lump of the aize of a lime is administered early in the morning in sour ourd or buttermilk. I have found this drag very useful in ouring the disease when so administered for five or six days. Oocasionally a pargative may be required to aid the action of the drug. In its action, it fesembles. podophyllin and taraxacam. It may'be administered in the form of a sucens.

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11. Butea frondosa ~
    Natural order-Leguminosm.
    Sanskrit-Palaea.
    Tamil-Porasam (vide presoription No. 14).
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The seeds have been long known to the Indian physicians to be laxative and anthelmintic in their properties and are given by them in combination with Hyosoyamus nigra, Kamala and carminatives to expel intestinal warms. In our practice it is given with amall doses of sentonin. as a compound powder for the expulsion of round worms. In a oase where large numbera of ove of mund worms were found in the fæces, compound powder of Butes frondosa as per presorip; tion No. 14 was given, but the result was negative. I intend brying hereafter the various reputed anthelminties used by Indian physicians.

## 12. Danda Roxburghii- <br> Natural order-Oróhidaces. <br> (Sanskrit)-Rasna.

A componnd decoction of this root is being administered in a case of Hemiplegia as the Indian physicians consider it nseful in all nervons disesses and rheumatism. It oonsists of rasna (vanda roxbarghii), fagonia arabina, codrus deodara, acorus aalamus and zingiberofficinalia, adhathoda vasios, asparagus racemosus, boerhavia diffusa, eto. It has not given appreciable benefit to the patient.
13. Guggulu-

Nataral order-Burseracess.
Botanical name-Balsamodendron Makul.
Sanskrit-Guggalu.
Malayalàm-Guggula.
Guggulu or Indian bdellium is obtained by making inciaions in the tree through which the gum resin exudes. It is nsed by Indian physicians in rheumatism, nervons diseases urinary affections and akin diseases. For these purposes it is given in several componnd preparations, such as yogorajaguggula, adithyapaka gaggula, kaisara gaggulu, adhangha guggula, kanohanar guggulu. I have been administering yogaraje guggulu with rasnadhi quath in a case of hemiplegia without any apparent benefit.
14. Oxalis corniculata-

Natural order-Geranisceae.
Sanstrit-Amladonika.
Tamil-Puliyarai.
The juice of the leaves of this plant is considered refrigerant, appetising and stomiachio. In alight forms of ehronio dysentery, the leaves boiled in butter milk and given twice or thrice
a day prove very neeful. Chakradatta gives thio in the form of a ghrita (meana gheo proparetion) and reoommende ite use in dyeentery, phles and prolapee of the reotum. The herb one be obtained in abandance at a very chenp rate at all the marketa in Madrua.
15. Silajit. (vide presoription No. 5). The literal meaning of this word is atone and lac. There are two common varieties whioh cen be obtained from the bacear, gomuthra ailajit and Karpoora silajit. Gomatbra ailajit has a etrong emell of atale oow'a urine. It in dart, sticky and unotnous. Karpoora silajit is found in white platea like marble bat is lea hard. silajit is a bitumenous exudation from rooke and mountains in the bottest part of the year. On igniting it, it leaves a large quantity of ash oonaisting of lime, magnesia, silios and oxidos of iron. It is said that there are four varieties of ailajit. (Vide Kaviraj N. N. Sen's book.) The four varietien get their hae from the presence of gold, silver, oopper or iron in their componition. Gold silajit is eaid to be red, the eilver variety white, the coppes variety of bluigh greon oolour and iron eilajit blackish. The only two varieties shown me in the Venkataramana dispensary. Mylapore, were the blaok and the white. The black variety is the one whioh is moptly used and is known as gomuthrs silajit. An extract is made from the orade substance by making an emulaion of it with hot wator and repeatedly exposing the emulsion to the oun. A oream floats on the snrface and it is removed and collected. The process iocontinned as long as any oream rises. The extract of silajit thus oolleoted is cundried and then parifled by being sosked in a decoction of certain platts. It is said to be a powerfal tonic, anefal in arinary diseasee, diabetes, gravel and consamption.

## The dose is 6 to 12 grains.

I have need this medicine with Ablrak Basmam (vide presoription No. 35) in two caeen of diahetes and the action was beneficial. In one case the sugar disappeared completely after three weeks' use although at the commencement of the treatment there were 22 grains to an ounce. In the other case which is still under treatment, the quantity of augar is reduced from 86 grains to 8 grains per ounce; the accompanying symptoms suoh as excessive flow of arine, thirat, neuritis of. legs, eto., have also subsided to a very considerable extent. Both the patiente were on milk and bread diet. Probably the diet has a great deal to account for the reduction of the quantity of sugar. A few years ago I saw a case of ohronic oystitis deriving muoh beneft from the use of gilajit which was administered by an Unani Physician.

## 16. Sida Cordifolia-

Natural order-Malvacese.
Sanskrit-Bala.
Tamil-Mayirmanikam.
Malayalam-Karundhoti.
$\dot{\mathrm{V}} . \mathrm{C}$. Dubt asys that the Banskrit writers desoribe four varieties of Bals and the roots of all these species are regarded as cooling, tonic, and useful in diseases of nervous ayatem. The Indian physicians of the west coast use the bark of Sids cordifolia in diseases of the nervons system suoh as paralyeis, sciatics, facial palsy, hemiplegia, vertigo, eto. It is nsed alone or in combination with other medicines as in mashabslathi kashayam, ksheerabala or bala thaila. Bala thaila is an oil prepared by making a decostion of the bark of Sida cordifolia to whioh sesamum oil and milk are added in certain definite proportions and boiled. This procets is repeated several times by adding fresh milk and a paste of the bark of the root; this is done 14 to 101 times or more. An onnce of 101 times boiled thails is sold on the west coast at Re. 8 . I have used this specific oil in several ceses of facied paralysis, soiatica, both internally and externally and found it to be very efficacious in ouring those diseases when they are due to inflammation of the nerves. I have received a supply of this oil from Malabar and intend giving a good trial in suitable cases in the hospital.

## 17. Phyllanthus emblica-

Natural order-Euphorbiacea.
Synonym-Emblic myrabolans.
Sanskrit-Amlaka.
Tamil and Malayalam-Nellikayi.
This is sdrag whioh is held in high esteem equalls by both the Unani and Ayurvedic physicians. The fruits are said to possess cooling, refrigerant, diurstic and laxative properties and are considered to be parifiers of the humours of the body. The dried fruite are said to be astringent and useful in hæmorrhages. Unani physicians give a confeotion made of this fruitvide prescription No. 41, for anorexia, biliousness, and palpitation of the heart. Hakim Shifa-almulk Zianulabddeen Sahib Bahadur speaks very highly of its property whioh he thinks depende upon the organic aoids present in the frait. In insanity and-other affections of the brain, the dried fraits are boiled over night in water which is allowed to cool and a continnous atream of this water is poured on the head for 15 or 20 minates to allay the brain irritation.

These myrabolans enter into many compound preparations of Ayurveda. Triphala (3 fruits) which consiats of equal parts of powdered emblic myraboland, chebnlic myrabolans and beleric myrabolans is administered as a laxative and correotor of hamours, in headaches, biliousness, dyspepsia and constipation, piles, enlarged liver and ascites. Nellikaya leghyam,
confection of Nellikaya (vide prescription No. 41) has been found to be useful in chronio dyspepsia and aloo as an appetiser. Dymook says that all the three myrabolans contain a large quantity of gallic and tannic acids, emblic myrabolane contain also 10 per cent of glucose.

Chebulic myrabolans are known as abhaya in Sanskrit, kadakhai in Tamil and Malayalam. Belerio Myrabolans are known as vibhitaki in Sanskrit and thandrakai in Tamil and Malayalam.

The Unani praotitioners have slightly modified the prescription for Triphala (vide pres--oription No. 28) and given it the name Ithriphal.
' The latter was given in doses of 3 drachms at bed time in a oase of chronio constipation and found to give considerable relief.

## COMPOUND PKEPARATIONS

I. Karpooradhi Chornam (vide prescription No. 13). This preseription han been unedr in cases of bronchial catarrh and bronohitis and found to help free expeotoration in thow diseases. It is prosoribed in the Madras Asurvedio dispensaries in oatarrhal bronohitie, laryngitis, nasal catarrh.
II. Talisyadhi and sithopaladhi ohurnams-vide prewription No. 8 (a) and (b) and vide notes on, Bamboo manna marked No. 2.
III. Worm powder-vide preseription No. 14 and vide notee on Butea frondoose marked No. 11.
IV. Trivrit churnam-vide presoription No. 15, and vide notes on Ipoemea turpetham marked No. 9.
V. Anandha and ewatobanda Bhairavi pille-vide presoriptions Noa. 16 and 20.

These pills were used in malarial fever with enlarged spleen and liver along with Panchathiktha decoction of Panchathiktha pariakam and with Leghu Sudaraane Churnam or Brihat Sudarsana Churnam. In three oases of malarial fever where diagnosia was oonfirmed under mioroscope by the presence of malarial parasites in the blood, the patient was free from fever from 4 to 7 days after the administration of the drug. In one oase where the dieease was of a malignant type with crescents in the blood, the ferer retarned in a mild form, after a few days of apyrexia. The treatment is being continued.
VI. Dadhumashtaka churnam-vide presoription No. 18.

This compound was tried in a few ceses of acate and ohronio dysentery in 'doses of 80 to60 grains and found to be very useful.
VII. Leghu Sudarsana Cburnam-vide presoription No. 19.

Brihat Sudarsana Churnam-vide preseription No. 23.
Panohathikthaka Panakam-vide presoription No. 26. and deooction-vide presoription No. 17.
All these have more or less the same properties and are being given in the Ayurvedio dis penearieein Madras in malarial fevers, in malarial enlargement of spleen and liver, in fevers of infuenza and bronchitis and other fevers of unknown origin. I have tried these preparations in the hospital in these diseases bat they have not proved as effioacious as I expeoted them to be. They are certainly of use in those diseases, when along with them preparations of meroury, sulphur and Aoonite like one of the following pills Anandhabhairavi (presoription No. ie Swatohandhabhairavi or Kasturibbairavi are administered.

The principal ingredients of these compound powders are Chinthal Kodi (Tinospore oordifolia) Katurohini (Picrorrhizha kurroa); Parpatakam (Oldenlandia herbacea), Koraikalangu (Oyperus rotundus), Neem (Azadirachta indica), Ohireta (Opheliae chiratta), which are repated to possess antipyretio and antiperiodio properties inIHindu Materia Medica. Usaally some oarminatives and laxatives are added as correctives.
VIII. Kutajapanithum-vide preseription No. 21 and notes on Veppalasrisi marked III-was found to be useful in cases of acute and ohronic bowel complaints with diarrhoea or -dysenter'y. Its action is similar to that of Dhadumestaka chnrnam (presoription No. 18).
IX. Bhaskara Lavanam-vide presoription No. 24. It was tried in two oasen of obronio gastritis. In one case there was a certain amount of relief to the stomach, but in the other case no rolief ẁas obtained.
X. Leghu Sanka Dravkam-vide prescription No. 25. This preparation which smells strongly of nitrous fumes appears to be a compound of the mineral acids. I have given it a fair trial in cases of cirithosis of the liver with aseites-This compound distillate was recommended to me for the relief of all liver complaints by some of the Ayarvedic phyeicians in the torn. In one of my cases, which is under treatment from 14th August 1918, it is dolng rome good, as the patient had to be tapped only once five weeks ago, and very little flaid has eocamno lated since then. This patient also gets a rild hydrogogue cathartio of Ipomoea Tarpetham. In another case of cirrhosis of the liver with ascites which has been of more than five years. standing, this medicine did not do the slightest benefit and the fluid had to be removed by repeated tappings.
XI. Zoofa-vide presoription No. 27.

This nnani preparation has proved rery effiosoious in relieving the cough of bronchitis: especially that of post influenzal bronchitis.
XII. Ithraphal-vide presoription No. 28. This is a unani preparation and it is a mild laxative. It was tried in a few eases of ohronio constipation and found to give relief. Three drachms of the confeotion is an ordinary adalt dose to be given at bed time.
XIII. Jawarish-a-Kamoon-vide presaription No. 3 n.

This was given to a case of chronic gastritis (dyspepsia). It did not give any relief.
XIV. Loha Bhasma or Iron Bhasma was obtained from Zandu Pharmaoy, Bombay. It was tried in a case of anaemia with general debility. The atrength and the hlood of the patientimproved under its use and it bad no ennstipating effeet.
XV. Siddha Bhasmam-vide prescription No. 32-Pandit Kanniyappa Mudaliyar extols its use as a specific for consumption, I tried it in a case of pulmonary taberoulosis in the second atage and in another case where the disease was fairly a dranoed. The first case put on weight and strength while taking it and is doing well at the time of the report. In the second oase there was no appreciable effect, for in addition to the advanced pulmonary tuberculosis, the pratient also had a complisation of taberculosis of the intestines.

XYI. Purnachnndredhayam and specifio oil for Syphilis-ride presoription Nos. 33 and 34. Both these medicines were administered as instrueted by the physician who gave them. The oil is what is known an Sarva Megha Sanjeevi Oil whioh is considered to be a specifio in ayphilis. After a preliminary use of the oil, Parnachandrodhaysu, which is considered as the King of Specifios in all stages of Syphilis was administered for 40 days. The case selected was a typical one of secondary syphilis. There were eeveral patches of ulcers on the body with dry crusts on some of them. Most of these healed uuder treatment but as two of them remained persistently unheal'ed and as the patient appeared to be disoontented, an intravenous injection of ampshlves 0.9 gram wasigiven. The remaining ulcers hoaled within four daye. There is no doubt that Purnachandrodhayam on aэcount of the mercury, arsenic and gold it contains. has some effect on ayphilis but the action is very slow and does not compare favourably with that of Salvarsan or of mercury administered in acoordance with B.P.

* XVII. Speoific for Diabetes Mellitus-vide presoription No. 35.

Reference has already been made to this in the notes, on Silajit No. 15. Talo Basmam(Abhrak) is very much extolled as a remedy in Diabetes Mellitus. It will be given a furthertrial in that disease.
XVIII. Vathagni Kamaran - presoription No. 6.

- I tried this preparation for severgl weeks in a case of heotio fever of tuberoulosis but. the patient was not in any way benefited.
XIX. Iron Kalpam-vide prescription No. 36.

This is an organic compound of iron. It was tried in anaemia and dyspepsia with anorexia and was found very beneficial in improving the blood, strengthening the patient and also in ereating an appetite. This preparation was supplied by Vaidya Rathna Pandit Kannappa Madaliyar.
XX. Narayana Thailam.
$\because$ The chief ingrediente are:
Sathavari.(Asparagus racemosa).
Aswagandha (Withania somnifera).
Vilvamula (Root of Aegle marmelos).
Patala (Sterospermum suaveolens).
Gokshuram (Tribulus terrestris).
Syonika (Colasnithas indica).
Agnimantha (Premas spindsa).
It is recommended for local massage in hemiplegia, lumbago, headaohe and paraplegia This was tried externally in lumbago and was found to give relief.
XXI. Agnithundi Pill-

Prepared in accordance with Saranghadhara. Its ohief ingredients are sulphide of meroury thrikatu (ginger, long pepper and pepper), ohithraka (Plumbago zaylanioa), the two Keharas (Carbonate of Potassium and Sodiam), Nux vomioae, Aconite, eto. It is recommended as useful in dyepepsia, indigestion, colic and as a tonic in all conditions of debility. It was given to dyspeptio patients who were very weak. The improvement was very gradual.
XXII. Specifio powder from a hakim in George town, for tuberole, asthma and diabetes. As the bakim relused to give the ómposition or the mode of its preparation, I had to get it analysed-vide-Chemical Examiner's report. I did not find it doing any appreoiable good hitherto in tuberole. In one oase it reduced the temperature for three days but the fever rose up again and further administration did not do any good. In a case of pulmonary taberoulosis with hectic fever, the patient did not show any sign of improvement, though the medicine was administered in accordance with the hakim's instructions. In a third case of palmonary and intertinal tuberculosis, the patient derived no benefit but suocumbed to the disease.
XXIII. Deo' Glyoy rrhiza Co.-vide presoription No. 11 and No. 23, page 12, summary of notes on drage.

Just as in the British Pharmeoopocia, all parto of regetables, vis., roota, fowers, leavee, fraits, extracts (as cateohn end opium), bark, wood and gum are ueed in Hinda medicios. Charaka dividea the medioines into three classes eacoording to the action they are supponed to have on the different organs of the ayotem or particular oymptomas of the dieeme. For exampla, Jeevanya-medicinea wbich prolong life, Deepaniye which inoreme the appotite and inoremes digestive power, Jwarahara-' 'ebrifuge.

The different forms in which medicines are administered are-
(1) Charna or powdera.
(2) 8 warasa or expresed juice.
(3) Quatbs or decoctions.
(4) Pbanta or bot infueions.
(5) Sithakashaya or cold infucions.
(6) Panya or weak decnotions.
(7) Mantha, emalaion of medioine in water.
(8) Ksheerapaka or deoootion in milk.
(9) A valeha or extract.
(10) Vati or pills.
(11) Modaka or bolases prepared by the addition of ayrap.
(i2) Khandapaka or confeotions.
(13) Yhudapaka or roasting.
(14) Sandhanavarga or products of acetous fermentation.
(15) Dravaka or dietilled mineral aciden (e.g., 8 malpadravaka and Saukadravaka).
(16) Asava and Arishta or medicated apirituoua liquors.

These last are prepared with the sid of honey and treacie from variouu medioinal aubatanose. If the raw drugs are only steeped in water for fermentation, the produot is Aoava. It, however, they are steeped in decootion of partionlar substances, the produot is arishta.
(17) Medicated oila and ghrita.

The medicated oils are prepared by concentrating the deoootion of vegotabie drage in oil, and ghritas are prepared by using olarified buitter or ghee ingtead of oil. Ghritae are ohiefy need internally and oils externally. Medioated oile and ghritas must be propared esoording to the method known as ghrithapaka or thailapaka:

Differeut modes of applying medioines -
(a) Vasthi karma or injeetione into the reotum.
(b) Pbalavarthi or suppositories.
(c) Nasya or applieation of medicated substanoen to the nose.
(d) Kavala or Gargles.
(e) Sirovasthi or applications to the head.
(f) Nethra karma or applioation to the eyea.
(g) Plastere or pralepa.
(h) Poultices or Pradehe.
(i) Svedhans or application of heat to the skin for inducing perapiration.
(j) Dhamapana or inhalations.
(k) Dupana or fumigations.
(l) Keharakarama or canatic applications.

In inorganic materia medica, the following mineral sabstances are mentioned :-
Solphur, mercury, arsenio, white arsenic, orpiment, realgar, iron, sulphate of iron, iron pyrites, gold, silver, copper, sulphate of copper, tin, zinc, lead, galena, brass, mica, talo, alum, iborax, lime, several salts of sodium; principally the five salts of sodium known as Panchalavanam, carbonate of sodium, and potassium, pitrate of potash, diamond, pearl, coral, silajit and red ochre. There are several onmponnds of these minerals mentioned but the purification of the minerals and tbe modes of preparation of their compounds are very tedious proceses. The appliances for purifying and preparing these compounds are orude remnants of remote consception which might have been excellent when they were firet put forth by the inventora in those remote times. Refer to pages 19 to 41 Vol. II N. N. Sen's Ayarvedic Medicines, also to pages 24 and 25 of N. C. Datt : Materia Medica. I hey reqnire considerable modifications and improvements in uocordanoe with modern scienoe. Several of these compounds such as Makaradhwajam, Vasantha Kusumakaram, Mrigangharasa, Poornachandrodayam, Raja Mrigaugharase, Panchaarratha Parpati, Mrothathapaua Rasa and several othor eimilar compounde which are oonsidered excelleot, medicinea by Hindn physicians require much time labour, ukill, patience and money in their preparation in accordance with Hindu Pbarmaoy, if they are to serve the purposes for which they are intended.

APPENDIX If.
Sumany of the notes oa the medioines investigated, found useful, and recommended for farther triel,


Summary of the notes on the medioines investigated, found nseful, and recommended for further trial--comt.


## APPENDIX III

List of drags and compound preparations colleoted in Madras and inyestigated up to date of report.
 milk or eugar thrice a day.

Ther. uses.-In general and ${ }^{-}$nervous debility, in consumptign, in rheumatiom, in heotic fever.
2. Guggulu-

Gum resin from Balsam odendrop Mukul, U. C. Dntt, page 132.

Preparations. - Yoga raja Guggulu, Kainchnar Guggulu, etc.

Ther. nses.-For rheamatic and nervous complaints, sorofula, ohronio uleers, eto.
3. Bamboo Ilianna-

Two compound powders are prepared from this--
(a) Sithnpaladi Churnam-


Dose-One dram thrice a day
Ther. uses.-In
cousumption
with
dry haoking oough, hæmoptysia.
(b) Thalisyadi Churnam-


Ther: uses.--In consumption with sbundunt expectoration.
4. Mocharas-

Dose.-20 to 40 grains
Ther. uses.--in powder for acate dysentery, chrorio dysentery and diarrhoes, hæmoptysie, hæmetemisis, also a local hømostatio. 5. Silajit-

Dose.-6 to 12 grains twioe or thrice a day.

Ther. nees.-In diabetes mellitus, in anæmia and palpitation, in cystitis, in albuminuria. This is a vostly medicine and has to be obtained from Kashmere and North India.

Acoording to U. C. Dutt, silajit consists of lime, magnesia, silica and iron (Proto and Peroxide).

## 6. Vathagns Kumaran-

Rub together 8 parts of parified meroury and puritied sulphar until the whole is converted into black sulphide of mercary. Then rab in juice of betel wine for two or three days for a few hours a day. 'l'hen rub in jaice of poinegranate flower, then add two parts by weight of thalatam (orpiment). Heat in à Valukayanthram in sand bath gradually for three daye. What sublimes at the upper part of the vessel as a solid mase is Vathagni Kumaran.

List of drage and compound preparations collected in Madras and iaveatigated np to date of report-ane.

```
Names of drage.
Dose.-f to 1 grain twice or thrice a day after meale.
Ther. uses-In intermittent fever, enlarged spleen, kals-arar, in hectio fever of eoneamption.
7. Holarrhena drti-dyoenterico-(Coantry ipecao).
The seeds (veppalarishi) powdered and rubbed is given in \(\mathbf{3 0}\) to \(\mathbf{6 0} \mathrm{gr}\). dosees in chronio dysentery, aonte dyeentery, chronic diarrhosa The bark is given in a variety of waye for the tame complainte. The expreseed juice of the bark is given with honey.
```

8. Sherankottai, marking nut-

Preparations-Acrid oil and electuary.
Electuary-
Marking nut .. .. .. ..
Cashew nut kernel " $\quad$.. $\quad$.. $\quad$.

- Clarified honey - . well in a stone mortar, and add gradually the cashew nut powder and hones.

Dose -Oil 11 dram to $2 \frac{1}{2}$ dram.
Electuary- Do.
Three or four doses daily.
Ther.' uses.-In acote rhenmatism; not half so useful in ohronic and muscular rhenmatism.

## 9. Nayivela Verai-

The seeds of Cloeme Viscosa.
Doses.- 30 to 60 grains for adults, twice - day for tro days followed on the third day by castor oil.

Ther. uses.-Anthelmintic, substitute for santonin.
10. Adhathoda-

Preparation.-decoction.
Take of Adathoda root in cut pieoes one part, water 16 parts, boil down to one-fourth quantity.

Strain-dose- 1 ounce thrice a day either alone or combined with other expectorante.

Ther. uses.-In acute and ohronio bronchitis, asthma.
11. The following may be given alone or combined with the ahove (No. 10).
Dec' Glycyrrhisa Oo.-
(a) Cubebs .. .. .. .. (a) Cubehs Officinale.

- (b) Liquorice .. .. ... .. (b) Glyeyrrhizae Glabra.
(c) Iong pepper $\quad . \quad$....- (c) Chavica Roxburghi.
(d) Chitharathai .. ... .. (d) Alpins chinensis.
(e) Kadukkai .. $\because \quad$.

Take equal parts by weight and powder. One part by weight of powder and 15 oz . water to be boiled and reduced to 4 oz . or it may be converted into electuary with honey.

Doses-Compound decoction 1 ez. three or foar times a day.

Ther. uses.-In acate and chronio bronchitis.
12. Athıvidayam-

Ther. uses.--In chronic bowel complaints as chronic diarrhoea, chronic dysentery, and acute dysentery.

Doses.-30 grains rabbed up in buttermilk or the decoction of pomegranate flower and leaves twice or thrice a day.

Generally administered with the juice of the bark of holarrenha anti-dysenterica.

## Aditya Baktha (Sanskrit).

Justioia Adathoda, Vasika. (Sanakrit.)
(e) Myrabulans Chebulio.

List of drugs and componind preparations colleoted in Madras and investigated ap to date of report-cont.
Namee of draga. . Botanioal namen. Quantity.
18. Karpuradi Ohurinam-

Camphora.. ... .. .. .. Cinnamomum Camphora, $\frac{1}{2}$ tola
Cinnamon (Paoha oarpooram) Tamil.

Nutmeg
Mace (japatbri)
$\because$
$\cdots$
Mace (japatbri)
Cloves
.. .
$\begin{array}{lllll}\text { Cloves } \\ \text { Nagakesari } & \quad . & . & . & . . \\ \end{array}$
Pepper .. .. .. .. $\therefore$
$\begin{array}{llll}\text { Long pepper } & \text { Dry ginger } & . . & . . \\ . & . & \end{array}$
Powder after sundrying and add double the quantity of sagar.
Doses,-40 to 60 grains.
Ther. uses.-Bronchial and laryngeal
catarrh-ala $\sigma$ in indigestion.
14. Worm pooder-

For roand and thread worms-


Powder fine
Doses.-16 to 20 grains twice or thrioe a day for three days followed by castor oil.
Ther, uses.-Anthelmintic powder
15. Triurit Ohurnam-


Doses-40 grains to $1 \frac{1}{\text { a }}$ drams with sugar in the morning.
Ther. aotion.-Purgative.

Lint of drage and compound proparations colleoted in Madrue and invectigated ap to date of report-come.

## Fame of drafe.

Botanical maser Contity.
16. Ananda Bhairavi pille-

Borax pare $\because \therefore$
Purified lingem or
(sulphide of mare) oarg).
$\left.\begin{array}{lllll}\text { Long pepper } & . . & \quad . & \quad . & . . \\ \text { Aconitum ferax.. } & - & \because & . .\end{array}\right\}$
Pepper powder $\quad \because \quad \because \quad:-J$
Powder these and grind in lime jaice and make into pille of $1 \frac{1}{2}$ graine eaoh.
Dose-One pill twioe a day.
Ther. usee- In fever due to indigestion, bronchial eatarrh, bronohitis, in malarial fever.
17. Panchathikthaka povder and decoction-


Take all the above in equal parts and powder.
One drachm of the powder in deooction twice a day. Rub the above pill in the decootion.
18. Dadimastaka churnam-

Pomegranate froit rind .. .. .. Punios granatom (rind of
Mocharas the frait of ).
Bombax Malabarioum (gam of).
Veppalarisi .. .. .. .. Holarrhena anti-dyeenterica
Poppy heads .. .. .. .. Papaver eomniferum (oapsules of).
Poppy aeeds
Papaver somniferum (aeeds of).
Mangottai paruppu .. .. .. Mangofera Indica: (kernel of nat).
Vattaithiruppa (pathasa).
Athividayam
Stephania Hernandifolia.
Equal parts in powder, $\ddot{\text { sieved }} \boldsymbol{0}$ through eloth.
Adalt dose- 30 to ${ }^{\circ} 60$ graine.
Children-10 to 15 grains.
Ther, useg-In acute and ohronio dygenters.
19. Leghu Sularsana churnam-


List of drugs and compound preparations colleoted in Madras and investigated up to date of report-cont.
Names of drags. Botanioal names. Quantity.
21. Kudajapanitham-

Veppslampattai .. .. .. . Bark of Hölarrhéns ànti- 100 palames.

Swarnamakabiks
Thrikaduga (ginger, pepper and long pepper).
Lodhra or Pachothipattai
Mooharas
Kurranthoti or Chittamutti
Rind of pomegranate fruit
Pulp of Bael frnit
Mastaka or Koraikilangn
Manjista Katagathikai or Dhathaki
Veppalampattai

dysenterica.
Ponnimalai or iron pyrites. 1 palam.
.... 1 palam each.
Symplocos Racemosa. of).
Sida cardifolia.
.. .. Punica granstum.
.. .. Agle marmelos.
.. .. Cyperus rotundus.
.. .. Rubia cordifolia.
$\begin{array}{lll}. & \quad . & \text { Wubia cordifolla. } \\ \text {. }\end{array}$
Bark of Holarrhenà anti- 10 palams. dysenterio.

100 palams of veppalampattai are to be
boiled in 16 measares of water and reduced to
2 messures. Strain, add to the filtrate jaggery and filter again and make into the consistency of treacle. Take out, add rest well powdered and add ghee at the end, while hot, and stir it well.

Dose-11 $\frac{1}{2}$ to 2 drachms.
Ther. uses-In acute and chronis dysentery and piles.
22. Yogaraja guggulu-

Chief ingredients are-
Plambago root.
Long pepper root.
Seeds of Nigella sativa.
Cammin seeds.
Gaggula.
Oardamoms.

- Rook salt.

Pinns webbiana, etc.
Used in syphilis, leprosy, rheumatiom, ohronio nervous diseases.


Lant of drags and compound preparations colleoted in Madrae and inveatigated ap to diste of report-aont.

84. Bhaskara lavanam-


Powder, sieve through cloth
Dose- 30 grains to $1 \frac{1}{3}$ drachms, twioe day before food.

Ther. ases-In indigestion, chronic and painful dyspepsia, dilatation of the stomach, and chronic gastritis.
25. Laghu Sanka dravaka-


List of drags and compound preparations colleöted in Madras and investigated up to date of report-cont.

## Names of drage.

Betanical namee.
Quantity.
Dose-5 to 10 drops twice a day.
Ther. nses-In enlarged liver and spleen, indigestion and colio, in cirrhosis of the liver, ascites. If there is fever, administer in water and give fever mirture or powder.
26. Panchathtkthaka panakam-

Chiratta .. .. .. .. ..
Katorohini $\quad . \quad$.. $\quad . . \quad . \quad . \quad$.. $\quad$ Ophelia chiratta.
Parpatakam .. .. .. .. Oldenlandia herbacea.
Korakilangu .. .. .. .. Tubers of Cyperas rotandus.

weight-Boil in 16 parte of water and reduce to 4 parta (one-fourth of the whole), add sugar equal to the weight of the powders and convert into syrap.

Dose-Half an ounce B.D.S. or T.D.S., given in conjunetion with Swachuntha Bhairavi, Anatha Bhairavi or Jwaramarari pills.

Ther. uses-Malarial fever with enlarged spleen.
27. Zoopha
(1) Zoophs .. .. .. ..

## Hask of the seeds of Hyesopas officinalis.

| (2) Ajmuth .. | $\ldots$ | $\ldots$ | .- |
| :--- | :--- | :--- | :--- |
| (3) Somba | .. | .. | .. |


(4) Liquorice $\quad . . \quad . . \quad . \quad$.. Glycyrrhiza glabra.
(5) Thuthi verai $\quad . \quad$.. $\quad . \quad$ Abutilon Indicum .. $\quad . .3$ varahanida
(6) Bedana .. ... .. .. Pyrus oydonia ... .. Do.
$\begin{array}{llllllll}\text { (7) Badam pisni (gum) } & \ldots & \ldots & \text { Amygdala } \\ \text { (8) Misiki } & \ldots & \ldots & \cdots & \cdots & \begin{array}{l}\text { Seeds of } \\ \text { ohns. }\end{array} & \text { Hibiscus abelmos- } & \frac{1}{2} \text { palam. }\end{array}$
$\begin{array}{lllll}\text { (9) Saphisthan } & \text {.. } & \text {. } & \text {.. } & \text { C } \\ \text { (10) Alabukara } & \text {.. } & \text {.. } & \text {.. } & \text { P }\end{array}$

(12) Dried figs dients with two measures of water down to $\frac{1}{4}$ measare-strain through oloth and take the filtrate, add about $\frac{1}{2}$ vise sugar and make into syrap.

Dose-one tola T.D.S.
Ther. uaes-for all lung complaints - excopt consumption.

## 28. Ithraphal-



Pinchikatukka
Powder, grease it with almond oil, add honey and turn into oonfection.

Dose-one tola at bed time, 2 hours after meals.

Ther. ases-In rhequatism, constipation, heariness of head, nasal caiarrh, cold in the eye, soiatioa.
29. Nellikayi leghayam-(Phyllanthus emablica).

Follow step in 12 (appendir 4) first part of the direotions; add 3 times the quantity of -agar-turri into confeotion.

Dose-one dr. to two drs.
Ther. uses-For arorexia, biliousness, palpitation, eto. -

The property of nellikapi which is very largely used by the Onani doctor is said to depend apon the organic acids present $\mathbf{3 n} \mathrm{it}$.

Liat of drage and compound preparations colleoted in Madras and invectigeted up to date of report-cont.
30. Javarish-at-kammoon-(composition)-

|  | Eammoona karmani |  |  | Nigello eativa |  |  |  | ole |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | White pepper . . | -• | . | Piper nigram |  |  |  |  |
|  | Black popper |  |  | Piper aigram |  | - |  |  |
| (4) | Oinnamon bark |  |  | Cinnamomum se | anio |  |  | cola |
| (5) | Dry sathab leaves |  | - | Leavee of Rata folia. | A |  | 41 | - |
|  | Ginger morabba | . |  | Ginger conserve |  |  | 18 | " |
| (7) | Myrabolans conserve | . |  | ... . |  |  | 18 | " |
| (8) | Confection of rose | - |  | - $\cdot$. |  |  | 80 |  |
| (9) | 8ugar .- |  |  | ... |  |  | 30 | * |

Turn into confeotion
Doses-1 $1 \frac{1}{4}$ tolas T.D.S.
Ther. nses. In diarrheoa, indigestion, dyspepsia, sour belching, removes foul-breath and watering from the mouth.
31. Oxalis corniculata-vide No. 14, Appendix I.
32. Siddha basmam-

in a orucible made of hare's bone (hare's bone ground in lime water and made into orucible) in ten cow dung cakes fire. Grind the babmam and put in a hottle.

Dose-1 grain.
tubercle).
Diet-Good nourishing food.
33. Purna chanthrodhayam-


Rub mercary and gold, add sulphur and rab and then add orpiment and grind in aloes juice one day, next day in haman milk and on the third day in the juice of shoe flower (Hebiscus rosa sinensis) with poonern one rice weight. Make puttam in paddy husk for one day.

Dose-2 grains twice 8 day in honey. No special diet.

Uses-In cases of syphilis and venereal disesses. This should be preceded by the specific oil given below for three days with marupathiyam.
34. Specific oil for syphtlis, renersal diseases and skin disaases -


List of drags and compouud preparations colleoted in Madras and investigated ap to date of report-cont.

| Names of drage. | Botrnical names. | Quantity- |
| :---: | :---: | :---: |
| Chithorathay | Alpina ohinensia | $\frac{1}{2}$ palam. |
| Paranghy Chakkay | Smilax chinensis | 5 palams. |
| Kadukkai | , | $\frac{7}{4}$ palam. |
| Thanikayee | The three myrabolans | $\left\{\right.$. $\frac{1}{2}$ \% |
| Nellikayee .- |  | L $\frac{1}{2}$ |
| Dry ginger | Zingiber offioinale ... | $\frac{3}{4}$ |
| Pepper | . Pipor Nigra. . . | $\frac{1}{3}$ |
| - Dry gooseberry | - Phyllanthus Eimblica | $\frac{3}{3}$ |
| Oubebs | Cubeba officinale .. | $\frac{3}{2}$ |
| White eandalwood powder | Santalam alba : . | $\frac{1}{4}$ |
| Nannari or Sarsaparilla | Hemidesmus Indions | $\frac{1}{8}$ |
| Sombu . | Pimpinella anisum . . | $\frac{3}{2}$ |
| Jeeragham | Cumina cy minam .. | $\frac{1}{2}$ |
| Coriander seeds | Ooriandram sativam | $\frac{1}{3}$ |
| Sindal kodi or gulancha | .- Tinospora oordifolia |  |
| Purified oroton seeds well ground | .. Croton tiglium | . . 1률 palams. |
| Garlic .. .. .. .. | Allium sativacn | .. 71 ${ }^{\text {a }}$-" |

Boil in pure castor-oil (12 visses) antil
Gll water is evaporated.
Doses.-One to two teaspoons for three or five daye with twio days marupathyam (special diet).

Diet--A void gingelly oilland mustard, substitute ghee and ouminseeds. Burnt tamarind and lime juioe may be used.
35. Specific for Diabetes mellitus-


Powder the vegetable drugs, add Silajit and Talo basmams. Mate a decoction with a second set of the same vegetable drugs, grind the first for fifteen days in the decoction. Make pills of six grains each : one B.D.S. in water or Nagakottai deroction (depootion of the dried nut of Engenia jambolans).
36. Kalpam (Iron specifio) -
(1) Iron powder ..
. $\quad . \quad$..
(3) $\quad \cdots \quad \cdots \quad . \bullet \quad . \quad . \quad .$.
(4) Limes $. . \quad \because \quad \because \quad \cdots \quad \cdots \quad . \quad \cdots \quad 50$

Powder the first three and grind in lime - juice (juice of 10 limes). Put in pudam of 20 cow-dang askes. Split each of the remaining 40 limes into fours. Fill each with the artiole after pudam. Put in a pot and pour the juice of colipta proatrata to the level of the artiole, oover, and olose rims with war. Bury under ground in wet suil for four months.

## 22

## List of drags and compoond preparations colleoted in Medrae and invectigated up to date of report-come. <br> Namen of dregen

Repeat and instead of putting inside eplit
limes, paste the pudamed article ovar cleaned dry ginger whioh has been perforated freely with needlea. Bury under grand as before. Mix both at the end of four monthe and grind.

Dose. -2 to $\$$ grains.
Uses.-In Anaemia, Jaundice and Dyepepoia.
37. Ipoemé 2 urpethwn-vide No. 9-Appendix I.
38. Esclipta Prostrata-vide No. 10-Appendix I.
39. Butea Frondosa-vide No. 11-Appendix 1.
40. Vanda Romburghi-vide No. 12-Appendiz I.
41. Bida Cordifolia-vide No. 16-Appendix I.
42. Phyllanthus Emblica-vide No. 17-Appendix I.
43. Agnithundi pill-vide No. XXI-Appendir I.
44. Specific powder for Tubercle, etc.-vide No. XXII-A ppendix I.
45. Loha Bhaemam-vide No. XIV-Appendix I.
46. Narayana Thailam-vide No. XX-Appendir I.
47. Talisyadhi and sithopaladhi churnams-vide 3 (a) and (b) supra.

## APPENDIX IV.

List of drugs and compound preparations colleoted in Madras ip to the date of report and to be investigated hereafter.

## Names of druge.

Botanioal namee.
Quantity.

1. Gudumal-

One tola of the whole plant is to be boiled in 4 oz . of water and reduced to 1 oz .

Dose.--One ounce thrice a day.
Ther úse.-- In Diabetes mellitus.
Pandit Gopalaohari Garu eays that this plant is obtainable from tne Himalayas and Gwaliar and is much used in the north of India - for diabetes.
2. Vellarai--

Prepare decoction as No. 1
Dose-One ounce thrice a day.
Ther. use.-In syphilis, leprosy, mental

- weakness, and insanity.

3. Laksha (Lac). -

Dose.-5 to 10 grains thrice a day.
Ther, use.-Stops bleeding in hæmop-

## tysis, piles and menorrhagia.

4. Bonduc seeds or Kackakayi-

Preparation.-Equal parts of Bonduo meeds and piper Nigram well powdered.

Dosie. 15 to 30 grains thrice daily.
Ther. use.--In intermitient fevers.

## 5. Trivrit legyam-

Confection of Ipomces Tarpethum.
Sivadaver-2年 vissee-cut into small pieces and braise-boil in 24 $\frac{1}{2}$ messures of water down to $\frac{1}{8}$ of the quantity-strain, add sugarcandy to the fitrate. The weight of the sugarcandy must be three times the weight of the powder given below:-
$\left.\begin{array}{l}\text { Cardamome. } \\ \text { Cinnamon leaves, and } \\ \text { Cinnamon bark }\end{array}\right\}$
Sivadaver
Powder well and strain through muslin" or fine - oloth. After the sagar candy has melted in the filtered decootion and the latter has the concistency of treacle, add the powder and turn into - onfeotion.

- Dose.-Two drachms in the morning. Ther. use-Purgative.

6. Fiscoumbara Rasa. -

All the ingredients same as Anaidha Bairavi-sulphur to be added.

Given with Panchathikthake decoction in -ordinary fever, oatarrh and findigestion.
7. Kasturi Bhairavi-

Purified lingam.
Purified eoonite ferox.
Purified borax.
Nutmeg.
Pepper.
Tippali.
Mnak.
Take equal parts of each by weight, grind in water and make into pills of one grain each.

Ther. use--In all phlegm fevers, acnte bronohitis, pneumonia.

Dose.-One pill thrice a day, rubbed in the deocotion of Chittharathai (Alpina ahinensie).

Seeds of Caesalpinia Bonducella; Kuberakshi (Sanskrit). krit).

Hydrocotyle Asiatica.

List of drugs and componnd preparations colleoted in Madras up to the date of report and to be inveetigated hereafter-aone.

## Numes of drag.

Botminal sames.
Conatis.
9. Kapa Kethu vati.-
 Kachora silangn and turn into pill masa Divide into $\frac{1}{8}$-grain pills.

Dose. One pill of 1 grain to be given in decoction of chstharathai thrice a day.

Ther. use-Bronohitis, catarrh and apecially in bronchitis of children.
9. Chithra kathi pills or powder. -

Composition -

1. Chithramolam . . .. .. .. Root of Plumbago-erylanioa.
2. Thipelli ver ... .. .. .. Root of Chaviaa Roxburghi.
3. Sarjikaksharam .. . . .. Ornde Sod. Carbonate or

Panchalavanam or five ealtsBarilla.


-     - 

..
6. Vilayaluppu (vit salt)
....
7. Karpuppu (kacha lavanam)
8. Suverchalappu (black alt)
$\cdots \quad \cdots$
. ....
-. .
9. Dry ginger
$\because \quad . \quad$ -
10. Long pepper . . .. .. ..
11. Black pepper .. .. .. ..
12. Assafcatida . . .. .. ..
13. Omam
14. Chaviyam (ohavica) (Kattu Mulakuver).

Take each of the above in equal partapowder fine.

Use as powder-or grind with lime-juice and turn into pills of 5 grains each.

Doses.-15 grains of the powder or three pills T.D.S.

Ther. ases.--In chronio and mascalar rheumatism and in all painial affections of the jointe and bones.
10. For Catarrinal Jaundice-

Leaves of castor oil plant
Leaves of Keelarnelli
. $\quad$.
Grind together and rubinto a bolus of the - size of a amall lime. Administer three mornings in milk and on the fourth morning give a purgative like Trivrit Churnam.
11: Mundi.-
Leaves of the plant should be dried in the shacle.

Dose. 20 grains, twice a day.
Ther. uses. Nervine tonic, anti-syphilitic, and in ohronic skin diseases.
12. Nourshdharn--

| Rose flower |  |  |  | Flowers of Rosa Damasoena, |  | hanida. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Koraki langu | - | $\bullet$ |  | Tabers of Cyperus Rotandue. | 1 | " |
| Mastaki .. | . $\cdot$ | . |  | Resin and Galls of Pistacea 'lerebinthing. |  | " |
| Nilakatambr | $\bullet$ |  |  | Ipumea Hederaceos | 星 | \% |
| Cloves | - | . . |  | Fugenia Carophylli | , | ", |
| Jada Manji | - | . |  | Nardoatachy Jata-manai | 4 | " |
| Cardamom seeds | - | - |  | Elettaris Cardomomam | 1 | " |
| Talispathri | . | . |  | Pinus Webiana | $\frac{1}{2}$ |  |
| Cinnamon leaves | . | . |  | Cinnamomum zeylanicum | 1 | " |
| Kichili kilangu | . | . |  | Curauma zedoaria .. |  | " |
| Cinnamon bark .. | - | . |  | . . |  | , |
| Large oinnamon bark | - | : | - | - |  | n- |

List of drugs and componnd preparations colleoted in Madras up to the date of report and to be investigated hereafter-cont.


Soak Surat. Nellikkayi (gooseberries) in water for 12 hours, strain and throw away the water. Add fresh water and boil for a conple of hours. They become soft. Make into a paste by grinding. Powder the other ingredients except saffiron and mustaki. Make treacle of honey and sagarcandy. Add the first paste and after 10 minutes add the powder to the latter. After boiling for 20 to 30 minates, add mustaki and saffron. Turn the whole into confection.

Dose.-Infants $\frac{1}{4}$ tamarind seed weight; adults 1 tola.

Ther.--пвe. In diarrhœea, dyspepsia, indigestion, in intertinal colio, also in palpitation of the heart.

## 13. Unani Cholera pills.-

(1) Calotropis gigantea flower (white variety).
(2) White pepper

| $\ldots$. | 2 tolas |
| :--- | :--- |
| $\ldots$ | 2 |
| $\ldots$. | 2 tola. |
| $\ldots$ | 3 tolas. |

(4)

Powder the first three ingredients, mix with lime juice and convert into two grain pills.

Dose.-One to two pills with equal parts of rose-water and omam-water every two or three hours.

In young children half the dose; don't gi ve more tben four doses.
14. Cough powder:-
(1) Black pepper .. .. ..
$\begin{array}{lllll}\text { (2) Ajowan } & . . & . & . & . . \\ \text { (3) Thippali } & \cdots & \because & . & \ldots \\ \text { (4) Rock ealt } & \because & . & . & .\end{array}$
(5) Nock salt $\ddot{\square}$ or black salt or (karapuppu, Tamil).
(6) Borax . . . . . .

Put all the abovementioned ingredients. in a mall pot, olose the month carefully and putthe pot in the burning fire for some time so that the ingredients in it may be completely barnt. Use the burnt powder, 2 to 6 grains mixed with honey.

Dees.-In catarrb and bronchitis.
15. Pille for Dysentery.-


Dissolve opium in a little water. Powder the rest of the ingrediants and mix with the solation and make into pills of three grains euch.

Dose.-One or two pille three or four timeic a day.

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List of drage and compoand preparatione colleoted in Medrae np to the date of report and to be investigated hereafter-ant.

## Namen of drast.

Botanieal manem.
Qanatity.
16. Tankana Pills-


Powder, grind in ginger juice and torn into 2 or 24 grains pills. Given in painful dyspepsia ; laxative of Thriphala should be given. 17. Kriniharavati or Anthelmintic Pille.

| Meroury ..- |  | . $\cdot$ |
| :---: | :---: | :---: |
| Sulphur | . |  |
| Karas-ani-omum | - •• |  |
| Vayuvelangam | . . . |  |
| Butea frondosa | .. $\cdot$ |  |
| Musthi (seeds of | Nuxvomica) |  |
| Grind in water | nd turn into |  |

pills.
Dose--One pill forr time a day for ohildren and two or three pills four times a day for adults ; next day castor-oil.

Ther. uses.-Anthelmintio for all inten-
tinal worms.
18. Swasakudaram.-

Oomposition-


Dose- $1 \frac{1}{3}$ to 2 grains.
Ther. nse.—Asthma, bronchitis.
19. Mruthouthapanarasa.

Composition-


Reduce to powder, macerate the powder in the expressed juices of the following :


List of drugs and compound preparations colleated in Madras up to the date of report and to be inveatigated hereafter-cont.

Grind Nos. 1, 2,3 and 9. Powder the cost separately-mix and grind altogether.

Ther. nse.-For external application for ringworm-mixed $\begin{aligned} \text { rith coconat-oil or lime-juice. }\end{aligned}$
21. Rohithaka $\Delta r i s h t a m-$

Andersonia Rohithaka (Shemmaram;
Tam.).
Oomposition:-
Bark of Rohitha.
To be put into 24 measures of water and boiled down to 6 measures-strain add jaggery 5 visses.

| (1) Dhataki .. .. .. .9 | Woodfordia Floribunda |  |
| :---: | :---: | :---: |
| (2) Long pepper | Chavioa Roxburghi |  |
| (3) Kandan Tippali | do. root of . |  |
| (4) Oheviam . | Pipor ohaba . ${ }^{\text {a }}$ | 4 palams eaoh. |
| (5) Ohithramulam | Plumbago zeylanioum | 4 palams caok. |
| (6) Ginger | Zingiber offioinale .. |  |
| (7) Cardamoms | Elettaxia cardamomum |  |
| (8) Cinnamon | Cinnamomam zeylanioum: |  |
| (9) Do. bark | do. bark of |  |
| (10) Triphala . | The three myrabolans. J |  |
| Powder these and mix them with the |  |  |
| already made and keep sealed for one air-tight. |  |  |
| Ther. uses.--In enlargemennt of the liver |  |  |
| pleen. |  |  |
| Dose.-Quarter to one ounce: | . |  |

22. Lohasava.-

Take fine iron powder, purify by soak-
ing in lime juioe and then barn the whole.
 measures of water with jaggery 5 visses and honey 3 visess; mix and keep sealed for one month.

Ther. uses-For all anmmias.
Dose.-Two draohms to one ounce.
23. Balasanjeevi pills-


Liet of drage and componnd preparatione collected in Madras up to the date of maport and to be inventigated bereafter-cont.

Names of druge
Botanisenl menare.
Quatily.
Aohrynathe aspers juico-fourth day in human milk, fifth day in ginger juice, sixth day in Tholasi (d) Ooimam sanctum juioa, and then turn into one and balf graina pille.

Dose.-One to three pills for ohildren
wnder three-
24. Gorojan pills.-


Grind in juice of leats of betel-ohavica
first day, 2nd day in Thulasi, Osoimum sauotum juiee, 3rd day in Carpoo avallee juice, Anisoohilus Carnosas.
25. Parangyathi churnam-
 with sugarcandy.

Dose.-Thirty to sixty grains.
Ther. uses.-Constitutional sy philis.
26. Suethana lepam.-


- urine or limejuice or brandy.

Ther. uses.-To be externally applied
in inflammations.
27. Punarnavathi churnam-
 measure of watar to be pounded and pressed out three times.

List of drage and compound preparations collected in Msdras up to the date of report and to be investigated hereafter-cont.
Namee of draga.
Botanioal namem.
Quantity,
To this water, add the following
medicines for kalkam :-


The Kalkam medioines are to be ground well and with one nazhi (quarter measure) of coconat oil must be added to the above deooction and then boiled; on the day it is to be strained, the milky juice of two copras or dried cocoanuts is to be added. Boil again until the whole is of arakkupakam

Apply this over the head.
A lady for a month's use may require
three naqhis.
Ther. uses.-For glandular swellings of
the neck.
29. Gochurathi churnam-

diesases.
30. Kushtadi churnam- .

thrikadugu or alum to suit the case.
31. Agni muka charnam-

32. Abhaya modakam -


List of drage and compound preparatione colleoted in Madrae ap to the date of report and to be invertigated hercefter-ant.

Namee of.druge.
Ther. nsee-Pargative to edulth; not meant for children.

Dose.-6 to 8 grains.
32. Purification of eroton aede-

First boil well in buffalo's dung; after drying remove the oentral apront and then boil in milk.
83. Itchabhathi-

Meroury, parified.
Salphar .. .. .. ... ..

| Pepper |
| :--- | :--- | :--- | :--- |
| Borax |$\quad . \quad . \quad . \quad . \quad . \quad . \quad$.

Borax .. .. .. .. ..
Ginger .. .. .. .. ..
Kadnkkai .. .. .. .. ..
Parified croton seeds a
Rub together meroury and sulphur first and then the rest with the mass. Torn into pille of green dhall size.

Dose.-One to four pills.
Ther. uses.-Purgative.
84. Vathagajangusam (from Dydia chinta-mani)-

Mercury .. .. .. .
$\begin{array}{lllll}\text { Mercury } & \text {. } & \text {. } & \text {.. } & \text {. } \\ \text { Salphur } & \text {. } & \text {.. } & \ldots & . . \\ \text { Nux vomica } & \text {.. } & \text {.. } & \text {.. } & \text {.. }\end{array}$
$\begin{array}{lllll}\text { Thri kadugu } & \ldots & \ldots & \ldots & \ldots \\ \text { Thriphals } & \ldots & \ldots & \ldots & .\end{array}$
Grind in decoction of rasna and turn
into pills of two grains each.
Ther. nses.-In rheumatic pains and nervous disorders.

## 85. Karpura rasa-

Pare hingulam (sulphide of meroury).
Opiam $\quad$.. .. .. .. ..
$\begin{array}{lllll}\text { Koraikilangu } & \ldots & . & . . & . \\ \text { Veppalarisi } & \text {-. } & . . & . & .\end{array}$
Veppalariai $\quad$ - .. ... ..
Natmeg . . . . . . .
Paxify hingulam by rubbing in lime juice, then dry, rub the whole in omam water and then turn into two grains pills.

Ther. nses.-Diarrhoes, indigestion.
86. Thrinethrarasam-


Make into two grains pills.

Ther. use.-In fevers.
Purify aconite by boiling in cow dung.
The following are some of the Arishtas
and Asavas used in Ayurvedic dispensaries :-

for nervous disorders.
(1) Ealarishta

- for enlarged apleen.
as a tonic in general debi-
lity.
- for gonorrhopa, gloet, eto.
(5) Kanakasava (Dhatura) ... .. for bronchitis and aethma,
(4bokarishta (baraea Indica) $\therefore$ for menstrual dibordera
Arjanarishta
- for heart diseases.
as a general tonio.
for diarrhosa, dymentery,
eto.

Dhataki flowers (flowers of woodfordia floribanda) are to be added to the prepared-- liquids in making most of the Arishtas and Asavas for caasing alcoholic fermentation, befors the pots in which the materials are placed, are sealed and put away.

Arriehtas are prepared by the materials being im-
mersed in decoctions and Asavas only in water.
The following legyams are also used in Ayurvedio dispensaries.
(1) Vilvadhi
(2) Kushmandam
$\therefore \quad . \quad$.. for dyspepeia.
(3)-Chyavanprash $\quad$.. .. .. .. for debility. and general debility.*

## APPENDIX $V$.

Statement showing the names of disesese trested with realta at the Goverament Generat Hoepital, Madrae, from 12th July to 31 ot Ootober 1918 by Aycrredio and Unani medioinea


## APPENDIX VI.

## Substances analysed by the Chomical Examiner, Madras.

1. A sample of Poornachandrothayam whioh is sapposed to contain gold was obtained from Venkataramana Dispensary, Mylapore. Some of the Indian physioians doubt whether gold which is not volatile could be present in the compound. Chemioal Examiner's report showed that the sample contained gold.
2. Specific Powder-vide Notes No. 22. This was found to consist mostly of ferrio oxide, traces of gold, lime sulphates.
3. Poonier Channam - pide presoription No. 32 contained lime, sodiam oxidé, potasaiam oxide, alumina, carbonio acid and chlorine.
4. Coral Basmam-vide prescription No. 32 contained calcínm carbonstẹ and sulphide.
5. Talo Basmam—vide preseription No. 35 oontained alumina, magnessia and silioa.
6. Iron Kalpam-vide presoription No. 36 contained ferrio oxide and some vegetable powder.
7. Vasantha Kusumakaram contained,mercury; gold, iron, lime, silica, alumina and traces of tin.
8. Karoobs and pearl Basmam contained mostly resinous product resembling benzoin and traces of lime were also present in the-ash.

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## APPENDIX VII.

Letter-from M.R.Ry. Rao Babib M. C. Koman Avargal, t.y. \& a, Honorary Physician, Government General Houpital, and Offioer in oharge of investigation into Ayarvedio and Unani Modioines, Madrac. the District Medioal and Sanitary Officer
To- Civil Surgeon.
Dated-
1918.

I have-the honour to request favour of information on the following pointe in connerion with my investigation into Ayurvedio and Unani drags :-
(1) The names and residence of well-known Ayurredio and Unani phycioians in your district or division.
(2) How many of them oan be got at easily and how many are litely to help me.
(3) Whether you oan kindly arrange with some of them if not with all, to meet mo at some place selected by you.
(4) Whether they have any special methode of treatment for the following disoanea and whether you have come across cases in which they. were found nseful :-

Cerebral apoplexy, cholera, plagne, hemiplegia, paraplogis, looomotor ataxia, progress sive musoular atrophy, psendohypertrophio paralysis, spaetic paraplegia, neairalgias espeoially sciatica, ayphilis, leprosy, tuberoular diseases, diabetes (mellitus and insipidus), asthms, obronio bronohitis, hydrophobia, mania, eepticmmia, dysentery, ohronio enteriti, pnenmonia, differont forms of Bright's disease, cirrhosis of liver with ascites, kala-azar, molaria and its oomplioations, aonte rheumatism, diseases of the heart, lymphangitis and filarial diweases, all other important diseeses for which specifics are available.
(5) Kihdly let me have your own experience of the ase of any druge in these $\boldsymbol{r} \boldsymbol{y}$ otema if you have experimented with or used them.

I further request you will kindly obtain, if posaible, information regarding the obief druge and specifios used by the Ayurvedio andUnani physioians, ander the following headings:-
(1) Names of single drugs when used alone.
(2) The composition of their compound preparations.
(3) The method of preparation.
(4) The mode of administration.
(5) Therapeatic ases.
( 6 ) Dosage.
(7) The nature of diet in each case.
(8) Any other remarks with regard to 'physiologioal action, poisonous doses, souroe, oharacter, ete.
Himn I have to arrange the programme of my visits into districte on hearing from you.

## APPENDIX VIII.

## Letter-from M.B.Ry. Rao Sahib M. C. Koman Avargal, L.m. \& e., Honorary Physician, General Hospital and Offioer in charge of investigation into Unani and Ayurvedic Medicinen, Madras. <br> To-the Collector of

I have the honour to request you will kindly ask the Divisional Officers and Tahsildars under you to send me a list of the eames of Ay urvedio and Unani physicians of your district, who, they think, will be able and willing to help me in my investigation. It would facilitate my work if these physicians could be kindly induced to meet me at the district or tsluk headquarters. On hearing from the officers mentioned above, I shall furnish jou with a programme of my tour.

# Oypros of ter Honorary Phyeiolan, Grnaral Hospital, Madras. 

31st December 1919.
No. 114.
From

m.R.Ry. Rao Bahadjr M. C. Koman afargat, t.m. \& s.,<br>\title{ Honorary Physiocan and Cpfigrt in chargb of<br><br>inviretrgation into Indigrious Druas, }

8ir,
In continuation of the preliminary report made on the 7th December 1918, I have the honour to submit this further report on the investigation into the properties of indigenous drugs, used by the Ayurvedic and Unani physicians. At the very outsetI must say that it was with great diffidence that I entered upon this work of investigation and anxious I certainly was to procure some guide in this investigation that might aid me in the prosecution of this interesting enquiry; but my anxiety was greatly relieved when l-was able to get possession of the following, works :-Pbarmacographia Indica by Dymock, Warden and Hooper (three volumes), the vegetable Materia Medica of Western India by Dymock, the Materia Medica of India and their therapeatios by Khory and Katrack, Ainslie's Materia Indica, the Taleef Shereef translated by Playfair, Materia Medica of the Hindus by Udoy Chand Dutt, Indigenous drugs of India by Kanny Lal Dey, Waring on Bazaar medioines, Waring's. Pharmacop ceia of India, Mohideen Sheriff's supplement to the Pharmacopeia of India, and Materia Medioa, Report of the proceedings of the Central Indigenous Drugs Committee of India and 500 Indian plants used in medicine and the arts published by the B. M. Depository, Mangalore. The following standard works on A yurveda were also at my disposal :-Captain Browne's memoirs containing the original Ayurveda as imparted by the hermit king of Kasi to Sushruta and his other disciples translated by A. F. R. Hoernle, o.i.x., Susbruta Samhita tranelated by Kaviraj Kunjan Lal, Chäraka Samhita (Malayalam translation), Vaghbada"s Ashtanga Hridayam (Malayalam translation, , Ayurvedic system of medicine in three volunes by Kaviraj N. N. Sen Gupta, Madhava-Nidanam (in Malayalam) and several other works on Ayurvedam by reputed Malayali physicians, also several treatises on medicine in Tamil. In the preface to his Materia Medica, writing about the substances brought forward in that work, Ainslie in 1826 wrote, "let it be the business of future experience to confirm or reject whatever may be ascertained in its nature sanative, benign, narcotic, or altogether inefficacious." In 1833 Playfair wrote, "conscious that the liberal minded will give me oredit for the best of motive, I shall not dread criticism and if it has the effect of inducing those more competent to the task to an enquiry into the properties and nature of medioines, my views will have been fully accomplished." Since then a large volume of work has been done in the direction indicated by these two great physicians and their expectations and anticipations have been more than fulfilled. The works published by the practitioners of the western system of medicine mentioned above are the result of patient industry and research and will last as standing monuments to the credit of the great authors who brought
them out for the benefit of the profession and suffering humanity. The Pharmaoographia lndica treats of almost every Indian drug with a desoription of ita botanion and vernacular names, of its history, sources, properties, chemical oomposition, eto., but probably in a country where almost any plant, shrub or tree one comes noross, is considered to possess medicinal properties, the votaries of Ayarveda may be unwilling to acknowledge the great value of the information contained in those three volumes and may complain that there is still much to be done. The report of the prooeedinge of the Indigenous Drugs Committee of India oontains very valuable information on several important and useful drugs of India. Several drugs were incorporated as addenda to the British Pharmacopøeia as a result of the investigation conducted by that committee. I have to thank Major-General G. G. Giffard, c.s.i, X. f.s., I.M.S., for having informed me about the existence of this report and obtained it for me from the Medical Storekeeper to the Government. The Indian Pharmaoopœia edited by ${ }^{\circ}$ Waring in 1868 may be said to be a compendium of the British and Indian Pharmacopœias, as it not only contains the British Pharmacopceia of the period but also gives a description of the botanical names, characters, preparations and uses of almost every useful Indian drug which were ascertained after caroful research and experimentation by the followers of western medicine, both European and Indian. The Bazaar medicines in India by the same author is a useful supplement to the Indian Pharmacopøia. Mohideegn Sheriff's supplement to the Indian Pharmacopceis is another valuable publication which gives the botanical and vernacular names and where necessary detailed description and distinguishing characters of the Indian drugs noted in the Indian Pharmacopøiia. The first part of the Materia Medica of Madras published by Mohideen Sheriff before his death gives a full account of the indigennus drags described in it, and had that distinguished author and investigator lived to complete the work, the Materia Medica of Madras would have proved to be a work of great utility and usefulness. The vegetable Materia Medica of Western India by Dymock is an abridged Pharmacographia of India and is a valuable guide for the study of Indian druge. Much labour and time must have been devoted to itr compilation. It not only treats of drugs indigenous to Indis but also gives a description of the source, properties and uses of those imported into India from other countries and used by hakeems and vaidyans. Taleef Sheriff trauslated by Playfair mentions 1,055 articles and gives a summary of the properties and therapeutical uses of those amongst them which are used in Unani medicine. Most of these drugs are common to Ayurvedic and Unani Materia Medica. Materia Medica by Khory and Katrack is a compendium of the British and Indian Pharmacopoias. These authors give a fuller account of the indigenous Indian drugs than is contained in Waring's Indian Pharmacopœia. The Materia Medica of the Hindus consisting of three parts, viz mineral, vegetable and animal, published in 1877 by U. C. Dutt is an extract from the wellknown Ayurvedic works and treats of the properties of the important indigenous drugs and of their reputed compound preparations. This Msteria Medica also gives a short description made by the Sanskrit writers of (1) classification of medicines, (2) actions of medicines, (3) preparation of medicines, (4) modes in which medicine日 are applied, (5) the weights and measures used in ancient days. Kanny Lal Dey's book published in 1896 on indigenous drugs in India gives a description of their souroes, characters and important medicinal pses. The book also contains the botanical classification of drugs. "The Indian medicinal plants" recently published by Basu and Kirtikar and a retired oficer of the Indian Civil Service, also contains useful and valuable information regarding the characters, properties and uses of Indian drugs. All these publications will go to show that since the time of Ainslie, there has been a marked and increasing interest manifested, by the members of the medical profession in India, in the investigation of indigenous drugs. That the Government of India were not lacking in interest in this important subject would be evident from the fact of their appointing a committee of eminent members of the medical protession with branches in several provinees 'to consider the desirability of extending the use of indigenous drugs in India.' The report of the Committee on Indigenous Drugs already referred to is the result of the work of this committee. Any one who has perused through the Pharmacographia of India will find that in connexion with chemical researches on indigenous drugs, the painstaking labours of Warden and Hooper have probably left little of anything important in the domain of Indian Pharmacology that was still unisolated. The articles employed by the Hindus in
medioine are extremely numerous. Many substances are daily prescribed with but -dubious or trifling virtue, if, indeed any virtue to be recommended. From what I have seen, the science of Hindu medicine is still sunk in a state of empirical -obscurity. In the town of Madras and in my tours in the districts I have come across many vaidyans and hakeems whose knowledge of the drugs is crude and unintelligent. Most of them are industrious and well-meaning and except in a few instances I was able to get from them all the information they could give me. A few of them among the several I came across, were able to exhibit their knowledge by repeating by heart verses from the welt-known Sanskrit writers like Charaka, Sushruta, Vagbhada, Madhava and also verses from Augustier, one of the most reputed of the Tamil saints who wrote several volumes in verse on Hindu medicine and philosophy. In vain have I attempted to find any drug or medicine whose reputed marvellons properties are shrouded in mystery or have not been already known. For the purpose of this investigation I have had to refer to the ancient Hindu unedical treatises such as Charaka-samhita, Susruta-samhita, Vagbhada's Astaugahridayam, Madbava Nidana and these books, it is said, were written some hundreds of years ago; but at what exact period, it is next to impossible to ascertain. Several commentators of these works have tried to fix the dates from contemporary events but as it is not necessary to quote them here for the object of my investigation, I shall not trouble myself by entering into a discussion on the subject. The Tamil medical works were many of them originally written in high Tamil (Yelacanam) Which is considered to be a peculiarly energetic and richly cultivated language. These Tamil works or shastras are said to be less shackled with the mythological doctrines of the original Ayurveda, to contain a great number of formulæ and to show. a minute attention to the discussion of morbid symptoms. But they also, like the original Ayurveda, evince a firm conviction and belief in the intervention of evil spirits, and offer many curious and absurd rules for averting their machinations. The path of investigation is beset with many embarrassments and difficulties. The first embarrassment I had to encounter while attempting to study the properties of drugs was in connexion with the hypothesis of the three humours, wind, bile, and phlegm which forms in Hindu medicine the basis of the ætiology, symptomatology, diagnosis, prognosis and treatment of diseases. All diseases are supposed to be caused by the derangement of one, two or all the three humours together. Different interpretations have been given to these humours byeminent Kavirajs, Pandits, and Vaidyans. With no pretensions whatever to any critical study of this subject, I must confess the more I have exerted to make a study of these humours the more have. I got into deep mire. Kavirajs and Pandits are doing their level best to reconcile and bring them into accord with the modern views of physiological functions and pathological conditions. But I do not think they have succeeded or can : succeed in their attempt." The hypothesis of derangement of humours in connexion - with diseases might have formed a working basis in the ancient days of Maharishis -and long before Harvey discovered the circulation of the blood; but it çannot hold good against the rational scientific physiology of the present day. In describing the properties and uses of individual drugs and particular combinations of medicines, the Sanskrit writers enter into minute details regarding their special influence on the humours on which they say the machinery of life depends and often indulge in very -exaggerated statements; for example a medicine prescribed for a particular disease is considered not only to cure that disease but also a host of other diseases. Take for instance the properties and uses of chebulic myrabolans (ordinary myrabolans, Tamil, kadukkai) as described in Astangahridayam, Suthrasthanam :-Astringent, indifferently sweet, pungent, sour, bitter, possesses heating powers, promotes digestive. powers, digests food lying undigested in the stomach, prolongs the period of youth, laxative, preserves and prolongs life, strengthens memory, increases vital powers, - cures leprosy, discolouration of skin, loss of voice, chronic fevers, poisonous fevers, disease of brain, tye diseases, anæmia, heart diseases, jaundice and grahani, consumption, abdominal tumours, dropsy, dysentery, swooning, morbid secretion of urine, -asthma, cough, excessive salivation, piles, enlarged spleen, flatulence, ascites, colic lumbago, loss of taste, and other diseases arising from the derangement of phlegm and wind humours.

A similar embarrasement is experienced when en endearour is made to andersstand the classification and syraptoms of diseases for the purpose of presoribing appropriate medicines. For example, in Madhava Nidana, fever is deacribed as a meparate entity or dieease by itselfic, All ferers are maid to be the result of the derangement of one, two or three humours, and there are several varieties of fevers described. When all the three humours are deranged badly, the fever is anid to be sannipatha or typhoid. There are 13 varieties of typhoid fever alone desoribed in this book each with symptoms peouliar to it. It can be safely said that much ingenuity and skill are exhibited by the ancient Sanskrit writers in their methode of classification and descriptions of the causation and symptoms of disease. Considering the period at which their works were written, it must be said that such skill was exceedingly creditable to those great und erudite authors; but I am conatrained to observe here that their hypothesis with reference to the classification and wtiology of diseuses is entirely out of date and will not stand the test of the rational science of the present day. Another diffioulty I had to encounter was in procuring reliable individaal drugs dry or fresh from the bazear. In the case of several druge, I had no previous experience and had to verify them by description taken on truct from others.

In my tours into the districts, I was greately helped by the revenue authoritien who always kindly arranged with hakims and vaidyans practising in and around the station to meet me at a previnusly appointed place. In these tours I met those vaidyans and hakims and had diseussions with them. They were one and all very genial, and well disposed, but many of them I found to possess only very elementary and crude knowledge of diseases and drugs.

On the West Coast, the treatment adopted generally oonsists of the administration of medicines prepared from vegetable drugs in the form of decoctions, medicated ghee, medicated oils, powders, pills and confeotions. On' the East Coast, in the Northern Circars, and in the southern districts although the same method is followed to a considerable extent, treatment by mineral drugs is adopted in the form of bhasmams and sindhurams, pills, etc., on a very extensive ecale. These mineral drugs chiefly consist of mercury and its compounds, oxides and sulphides of arsenic, iron, zinc, lead, tin, gold and silver and some of their compounds, oxide of aluminium, carbonates of sodium and potassium, nitrate of potash, chloride of sodium, borax, coral, pearl and mica or talc.

The Unani hakims also use almost every drug used by the vaidyans. They attribute heating and cooling effects on the system to every drug. The hakims generally make their medicines palatable and sweet by the admixtore of honey and syrup and their tonic preparations are generally mixed with powdered gold leaf or silver leaf.

The cost of important compound-drugs prepared by vaidyans and hakims is in several instances almost prohibitive and it would not be possible except for the well-to-do to undergo treatment by such drugs. Enquiries were made of the hakims and vaidyans to ascertain if they had specific or general treatment for the following diseases :-Cerebral apoplexy, plague, hemiplegia, paraplegia, locomotor ataxy, progressive muscular atrophy, pseudohypertrophic paralysis, spastic paralysis, acute mania, different forms of Bright's disease, cirrhosis of liver and kala-azar. None of them were able to give me anything which would prove useful in these diseases, but all of them were straightforward in stating that these diseases were beyond the soope of successful treatment by them: The drugs which they mentioned for the treatment of leprosy, tubercular diseases and diabetes were found to give temporary relief to a few patients suffering from mild forms of those diseases, but no reliance could be placed on them to effect a complete cure. They have a host of druge for all fevers, some of them, no doubt, useful though slow in action. They have a large number of preseriptions for the treatment of affectious of bowels, viz., dysentery, diarrhcea, etc. Most of these prescriptions are really useful but as in the case of antimalarial drugs, their action is very slow. I have been able to collect a large number of prescriptions for various diseases. Some of them I have keen able to use, others I have considered to be useless and some I could not use for want of suitable patients. I have now been able to understand in a much better manner the various methods of
preparation employed in Hindu Pharmacy and I have not found anything new to modify the opinion which I gave about them in my preliminary report. Treatment by massage with medicated oils, by the applioation of medicated oils and other fluids in a special manner to the head; and by slow douching of butter-milk and other liquids on the head, is largely resorted to on the West Coast for the cure of various diseases. In Appendix No. 9, I have given a short summary of these methods. Considering what has already been done in drug research and pharmacology, vaccine and serum therapy, in animal thérapy, ionic medication and other methods of treatment by electricily, treatment by heat, light and cold and treatment by massage, I am of opinion that there is very little if anything for us to learn from the methods of treatment followed by the vaidyans and hakims.

I understand that in the leetures on Materia Medica at the Madras Medical College, the practice of including some of the important Indian drugs has of late been dropped. I woald suggest the inclusion in that course of the indigenous druge noted in Appendix No. 8, as it would serve as a guide to those students who are inclined to widen their knowledge of the subject.

Sub-Assistant Surgeon N. S. Subrahmanyam was posted to assist me on the 8th November 1918. He has worked under me zealously, willingly and loyally and has been of much help to me in conducting this special work.

My thanke are due to the Medical Officers and Staff of the General Hospital for having placed at my disposal patients whom I selected for the purposes of this investigation. In the districts I found the medical offieers always -willing to help me and I now thank them for all the assistance they rendered me.

In conclusion I have to express my gratitude with thanks to Major-General G. G. Giffard, o.s.I., к.द.s., I.M.S., for the support and encouragement kindly - extended to me in the performance of this onerous work.

I have the honour to be,
Sir,
Your most obedient serrant,

M. C. KOMAN,<br>Honorary Physccian and O.ficer in charge of Investigation into Indigenous Drugs, Madras.

Appenaliz No. 1.
Comparing some indigenous druge with some of the drugs in the British Pharmaoopoeis.

Single druga investigated.
Appendiso No. 2.
Appendix No. 2-B.
Compound preparations investigated.
Appendisx No. 3.
Clessification of drugs based on their properties.
Appendíx No. 4.
Summary of the notes on the medioines investigated.
Appendix No. 5.
List of compound preparations colleoted and investigated with their composition.
Appendis No. 6.
Statement showing the diseases treated by Aywrvedic and Unani medicines from 12 th July 1918 to 31st December 1919.

## Appendisi No. 7.

The Chemioal Examinex's report on some drugs.
Appendia No. 8.

- List showing some of the important Indian drugs, auggested to be incladed in the leoturea on Materia Medioa.

Appendia No. 9.
A sammary shewing the metiods of treatment lby medicated oils, ete., peouliar to Malabar:

# APPENDIX No. 1. <br> Comparison between Indigenous Druge and those of the British Pharmacopoua. For the. purposes of this comparison only a fees drugn are taken from each head and classified according to their properties. 

## Antablyinttcs.

There are abont forty indipenous drage which are said to possess the property of expelling worme from the alimentary tract. The cbiof amongst them are:-
(1) Butea frondosa.
(2) Chempullanhi (Colycopterus foribands)
(3) Kirmani (Artemesia maritima)
(4) Cleome visoosa.
(5) Vernonia anthelmintica.
(6) Chenopodiun ambrosioides.

I have administered all these drugs and found them to be far inferior to anntonin for the expulaion of round worms and to thymol for the expulsion of hook worme. Kirmani, whioh consists of an admixture of the flower heads, stalks and leaves of Artemesia maritima was the most effioacious among the indigenone drugs in expelling round worms. This plant is asid to grow on the western Himalayas. It is from the fower heads of this plant that santonin is obtained. As the powder ' Kirmani' can be ubtained oheap ( 12 annae a pound) it may be substituted for eantonin especially as the price of the latter has risen bigh.

Tender leaves of Chempullanhi (Colycopterus loribunda ?) poseass also anthelmintio properties to a considerable degree. They have both laxative and anthelmintio propertien and do not require a purgative after administration for the expalsion of the round worma, bat they are not so certain in their aotion as santonin. The other druge mentioned above have only very feebleanthelmintic properties when administered alone.

## Anti-sYphilitic rembdira.

The vaidyans generally treat all syphilitic diseases, whatever atage they may be in, by frut administering for three or four days a speoifio pargative oil which oontains several vegetable drug* ${ }_{r}$ ohief amongst whioh are :-
(1) Smilax ohinensis.
(2) Hemidesmus Indions.
(5) Therpesia populnea.
(3) Vitex negando.
(6) Sida cordifolia.
(4) Bark of Pongamia glabra.
(7) Parified oroton seeds.

This is followed by the internal administration of some preparation containing moroury or its compounds like calomel or corrosive sublimate. In the case of rioh patients cosily compoundelike Poornachandrodayam which contains mercury, gold, orpiment, sulphar, eto., are adminietered in proference to cheaper componnds of mexeury. One now and then comes across patiente suffering from the injurious results of the indiscriminate use of mercurial preparations in the form of oils and powders indigcreetely administered by quack vaidyans for the relief of ayphilin, skin diseases, nervous diseases, obronic rheumatism, eto. Mercury and several of its compounde are also largely used by the allopathic praetitioners chiefly in the treatment of primary and secondary stages of syphilis, but their administration is always conduoted in such a carefal and methodical manner as to prevent the occurrence of any injurions effects. Poornachandrodayam which is very much oxtolled by the vaidyans as a sovereign remedy in syphilis was administered to a patient with syphilis for 40 daye after a preliminary treatment for five days with the speoifio oil for syphilis. This patient who was suffering from pyphilitio rupia all over the body derived some benefit from the above treatment. Several of the vieerated patohes on the skin healed up but two of them remained persistent and callous and the patient had therefore to be given an intravenons injection of salvarsan (Ampalv). The callons ìloers healed in four days after the injection. Other patients who were admitted for the same disease about the rame time as this patient and who had aalvarasn treatment were able to leave the hospital relieved in the couree of seven to ten daye. It will be evident from this that the aotion of Poornachandrodayam is very slow and does not compare favourably with that of salvarsan.

The preparations of meroury in the British Pharmacoposia which are intended for ouringayphilis are as good as, if not better than, those ased by the yaidyans.

## Antidiabetics.

Chief drugs used in diabetes are :-
(1) Abbrak or Tale Bhasmam.
(2) Silajit.
(5) Lodoicea Seychellaram.
(3) Oaseia Auriculata.
(4) Eugenia Jambolana.
(6) Coconlas villosus.
(7) Tinospora cordifolia.'

Under proper diet all these drugs are able to xeduce the output of sagar in the urine to a certain extent and no further; but as soon as the medioines are stopped, there is a return to the priginal oondition. In one case where there was a complete disappearanoe of sugar from the administration of Silajit and Talo (Mathu megah mani pills) the sugar reappeared immediately after stopping the pills. Vasantha Kusumakara Rasa which is a oompound of several metallic basmams acta as a nervine tonio and slowly reduces the quantity of sugar in the urine but its cost is prohibitive exoept to the rich. Even after ite long continued use, I have not come across a single ease in which the quantity of sugar had completely disappeared. Among the ayurvedio drugs I would recommend Abbrak Basmam (Caloined 1 l,0 or 1000 times) and Vasantha kusumakara Rasa for the relief of diabetes.

Codeia, opium, morphia, arsenio, and salicylates which are used as anti-diabetion by us are as good as any of the ayurvedic medicines in giving relief to diabetic patients. Complete disappearance of sugar from the urine has been notioed in several oases of diahetes which were treated with the drugs of the British Pharmacopocia mentioned above under proper hygienie and dietetio oonditions.

## Altrratives.

There are several alterative drugs in Hindu noedioine. Mercury and several of its compound preparations like:-
(1) Nithyanandha Rasb.
(3) Sarwanga Sundara Rasa.
(2) Mriganka Rasa.
(4) Laxmivilasa Rasa.
are considered as strong alteratives and are used as alterative tonios in several diseases. Amongst the vegetable alteratives, the chief are:-
(1) Amoora Rohithaka.
(2) Clerodendron serratum.
(3) Celastras Panioulata.
(4) Gynocordia Odorata.
(5) Calotropis Gigantea.
(6) Hemidesmus Indions.
(7) Pongamia Glabra.
(8) Tinospora Cordifolia.

The most important alterative medioines of the British Pharmacopois are iodine and its compounds, meroury and its salts. There are seversl other less importent alterative medioines, suoh as arsenious acid, ammonium salte, antimony salts, salts of gold and silver, thyroid extract, sarsaparilla, eto. Some of the merourial compounds of the vaidyans aet very well as alteratives and improve the health and tone of the body. But there is no drug in their Pharmaooposia whioh could be considered equal in its action to that of the iodides. Thyroid extraot for the relief of myxaedema stands by itself and there is nothing in the Hindu or Unani Pharmacopcoia which aots as an effioient alterative in that disease like thyroid extract.

## Expeotorants.

The chief expeotorant indigenous drugs are:-
(1) Justicia Adhatoda.
(6) Shwaskutara Rasa.
(2) Urginea Indica.
(7) Mriganka Rasa.
(3) Bamboo manna (Bambusa arundi-.
(8) Eladi Churna.
(9) Lavangadi ohurna.
(4) Unbaked camphor.
(5) Calcined coral and pearl.
(10) Sitopaladi Churna.

In the British Pharmaoopceia the prinoipal expectorants are :-
(1) Ammoniam aalts.
(2) Todides.
(3) Liquorice.
(4) Ipecaouanhae.
(5) Squill.
(6) Pinus sylvestris.
(7) Senega radix.
(8) Euphorbia Pilulifera.
(9) Lobeliae.
(10) Pellitory.

As far as expeotorants are ooncerned, although there are several useful drugs and preparations in the British Pharmacepoaia, I would suggest that Justicia adhathoda should be given a more extended trial than has been bitherto done and that oaloined coral also ahould be given a fair trial.

## ANTI-PERIODICS.

The prinoipal anti-periodios of the vaidyans are :-
(1) Azadirachta Indica.
(6) Oldenlandia herbacea.
(2) Ophelia ohirata.
(7) Pierorrhiza Kurroa.
(3) Alstonia soholaris.
(4) Tinospora cordifolia,
(5) Berberis aristata.

8 Trioniza Karro
(8), Triohosanthes Cuoumerina or Dioioa.
(9) Oaesalpinia bionducella.

A fair trial hae been given to all theee druge and I am able to meort that the alkaivide of oinchona (quinine, eto.) are far auperior in thair notion as anti-periodion to all the indigenoue druge mentioned above. There are meveral componnd properatione which vaidyanan une as enti-periodios to mention a few:-
(1) Sudarasina ohurnam (Leghu and Brihat).
(2) Pantohathikthakam.
(4) 8 watchandha Bhairavi.
(5) Narayana Jwarantusa.
(6) Maha J warankaca.

I have found that the action of these preparations is very slow and in inferior to that of the ealte of quinine.

## Axti-Pyaktioa.

The following are the principal diaphoretios and antipvretios amongst the indigenoas drugs:-
(1) Tinoapora Cordifolia.
(7) Oldenlandia herbeoes.
(2) Vernonia oinera.
(8) Alstonia scholari.
(3) Dmmia extensa.
(9) Piororrhiza kurroa.
(4) Viola odorata.
(10) Oaimum sanctum.
(5) Ooscinam fenestratum.
(6) Aconitum ferox.
(11) The ten roots.

All these druge gradually redace the temperature in mild fevers like a solution of acotate or citrate of ammonia, but they do not possese the powerful diaphoretio or anti-pyretio aotion peodiar to drugs like aspirin, anti-pyrin or phenaoetia. Except Aconitum ferox, other indigenoua druga mentioned above are not harmful and may be safely administered in the form of deooction.

## Tomios.

In Ayurvedam and Unani, there are good tonios for the blood, stomaoh and nerves suoh as:-
(1) Caloined iron.
(2) Oxides of iron.
(3) Iron Pyrites basmam.
(4) The three myrabolans.
(5) Ashta churna.
(6) Bhaskara salt.
(7) The five hitters.
(8) Jawarish-a-kamoon.
(9) Aaziraisah.
(10) $M$ ajoonai $\begin{gathered}\text { Ehuvathibah. }\end{gathered}$
(11) Laximivilass Rasa.
(12) Caloined gold, ohandrodaya Mekhardhwaja.
(18) Amritha-prase ghrithe.
(14) Chyavanprash.
(15) Compound powder of Withanis somnifers.
(16) Silajit.
(17) Sida cordifolia.

In the British Pharmacopoeis, there are tonios corresponding to the above suoh as the several preparations of iron, phosphorus, nux vomioa, vegetable atomaohios like oslumbs, quarsis and gentian, hypophosphites, oodliver oil, damiana, 0000 , oardias tonice like digitalis, squill, strophanthus, etc.

## Cathartics of Porgativgs.

There are several vegetable drugs used as purgatives by vaidyans and hakinu: ohief amongst them are :-
(1) Oassia fistula.
(2) Ipoemea Turpethnm.
(4) Castor oil.
(3) Purified croton seeds.
(5) Senns leaves.
(b) Roae bad.

The British Pharmocopoeia divides purgatives into aperients, simple purgativen, oholagogues and drastic cathartics. The important purgative medicines are:-
(1) Jalap.
(2) Senna.
(7) Enonymin.
(8) Podophyllin.
(3) Castor oil.
(9) Croton oil.
(4) Cancara sagrada.
(5) Elateriam.
(10) Certain salts as sulphate and
(11) Bulphate of magnemia.

Ipoemea turpethom which is largely used by the vaidyans on the west coast as a purgative is in its action equal to ipomea jalaps (jalap) and may well be supatitated for it. It can be obtained oheap and is available in all the local drag bazaars. A compoand powder corresponding to the compound powder of jalap can be prepared with it without difficulty. The pulp of the pod of cassia fistula is largely used as an aperient by the hakims. - Rhobarb (Reval Chinj) is also used as a larative by the hakime.

## Divartios.

The important diuretics amongst the indigenons drugs are:-
(1) Boerhavia diffuse. (7) Seeds of oueamber.
(2) Cubeba officinale.
(3) Tribulus terrestris.
(4) Moringa pterygospermum.
(5) Santalum albam.
(8) Sikajit.
(9) Urginea Indica.
(10) Chicoria endivia.
(11) Viola odorata.

In the British Pharnacopœeia there are more satisfactory diuretics such as scopari, buohur nvae-ursi, diuretin, certain salts of potassinm and sodiam, digitalis, squill, also proprietory medicines like anssarcin, salts of theocin, arotropine, eto. These drugs are more rapid in their action when administered in regulated doses, than most of the indigenous drugs mentioned above. I have found Boorhavia diffusa to be a fairly good diuretio espeoially when combined with iron in the dropsy of anæmia and chronic Bright's disease.

I must not fail to mention here that fresh ginger juice (Zingiber offioinalis) has been ascertained to be a good diuretic for relieving ascites and dropsy arising from early cirrhosis of the liver. The method of administering and dosage, eto., are mentioned under single drags. (Zingiber officinalis). The ginger juice did not give satisfactory results in dropsy associated with advanced cirrhosis of the liver, ohronic Bright's diseases, and valvolar diseases of the heart.-

## APPENDLX No. 2-A.

Qinale droas, mfembatzi.

## 1. Alstonia scholariv.

Nat Ord.--Apooynacese.
Ver.-Tam.-Hilaippalai. Mal.-Elilampala. Tel.-Edakulariti chettn.
The bark of this plant is said to be a powerful tonio and antiperiodio. This bart oontains an alksoloid ditamin, which was obtained in the form of an acetate in the jear 1875 kJ Jobston Heesie. For the other bases contained in this bark, wee ite ohemical componition in Dymook's Vegetable Materis Medica. This ditamin or ditain it eaid to be a very powerful anti-periodio. Tinctare and decootion prepared from the bart of thia plant were tried in eevoral cases of malarial fever with favourable reaults. It took a muoh longer period than quinine to oheok intermittent fevers, but there is no donbt that it has considerable anti-periodio proporties. It aots as a general tonic in combination with ginger.
2. Asparague racemosus.

Nat. Ord.-Liliaceae.
Ver.-Tam.-Sathavari, Panniyanaku. Mal.-Sathavari. Tel.-Pillapoecharagadda.
The name sathavari (that is poseessing 100 roots) is in allation to the numeroue funiform tubers of this plant.

The tubers are considered to be nutripnt, tonio, and demaloent and are given in biliousness, dyepepaia, diarrhces, and general debility. On the west 00 sst, the tabers are eaten oandied or pickled for correoting the derangement of bile hamour and also ag an appotiser. $\boldsymbol{A}$ decoetion of the drug pas administered as a stomachio tonic in atonio dyspepsia, but the aotion was fonnd to be slow and the result not enoouraging.
3. Anisnmeles malabaricum.

Nat, Ord.-Labiateae.
Ver.-Tam.-Peymuratha. Tel.-Mogs bera. Mal.—Karinthamba. -
An infasion of the leaves of this plant is given on the west coast to chilitrea in oolio, -dyspepsia and fever arising from teathing. The infnsion acts as a diaphoretio. An infuaion (l in 10) was tried in fever accompanying teething and was found nseful.
4. Anacyclus pyrethrum (pellitory).

Nat. Ord.-Compositeas.
Tam.-Akzilakaram. Mal.-Akklakaran. Tel.-Akkalakara.
The vaidjans presoribe this drug in combination with the leseer galange and ginger as cordial and stimulant in palsy and in cases of lethargy. Pellitory has long been reoognied as a sialagogue and is used in gargles for relieving toothaohe and aphthous uloers.

I was informed by the patient referred to in the notes on areos oateohu (No. B), that it was a specific in pulmonary and glandular tubercalosis. I adopted in eight oasee his method of treatment whioh is as follows :-
"An ounce of the fresh jaice squeezed out of tender areannts (half grown) to be given half an hour before every meal.

$$
\begin{aligned}
& \text { Akarakarha or karha root.-16 ounces by weight. } \\
& 2 \text { ounces by weight. }
\end{aligned}
$$

ground on a grinding stone into a fine pulp and then made into pille of the aize of William's pink pills with the aid of bees' honey ; 10 to 20 pills at a time to be taken after every meal."

Three cases of fairly advanced pulmonary tuberculosis in the hospital were put on this treatment and all of them derived much benefit from it. All the patients gained weight and strength and their condition was very mach ameliorated. The congh and the expectoration diminished to a great extent, the hentic faver also went down. Taberole bacilli were present in, the sputa of all these three cases on admission. In five out casea the same treatment was adopted.' One was an advanced ease of pulmonary 'tuberculosis with diabeten. He did not derive any benefit from the treatment. The second was a case of intestinal tuberculosis; the treatment made the patient's condition worse. The third, a case of pulmonary tuberculosis was very moch relieved of the symptoms but he had to give up the treatment as co:nplications of a constitutional disease aet in 2 months after the treatment was begun. Two other ont-cases had the treatment only for a few days.

I cannot say pusitively that the improvement noticed in the three cases treated in the hospital was entirely due to this speoial method of treatment; probably to a great extent it was the result of the nourishing diet, rest and open air whioh they had in the hospital.
5. Areca catechu.

Nat. Ord.-Palmaceae.
Tam.-Pakku. Mal.-Kazhangu. Tel-Poka-vakka.
The arecanut is largely ueed in India as a component of the betel nut for ohewing. On the suggestion of a patient who informed me that he was cured of hic consumption by a preliminary administration of the fresh juice of tender arecanuts followed by a prulonged nee of Anscyclue pyrethrum (see drug No. 4 supra), this drug was given to eight patiente. The dome
nuggested was 5 ounces of the juice to be gradually sipped in the morning in the course of an hour or two. None of the patients could stand this dose, as it produced violent vomiting and purging. The dose was consequently reduced to, half an ounce., Even half an ounce had a nauseating effeet and generslly produoed 2 or 3 evacuations. I cannot understand why this preliminary treatment by this special-method of purgation is considered necessary. As atated above the juice of the tender nuts acts in small doses as a laxative.
'6. Acorus calamus.
Nat. Ord.-Aroideae.
Tam.-Vasambu. Mal.--Vayamibu: Tel.-Vasa.
The rhizome of this plant is ssid to he a good stomaohio and carmiuative and in dose - of abont 90 grains, emetic. It enters into several carminative presoriptions for ohildren. A decoction of this root stalk was given to several cases of indigestion and found to be efficacious.
7. Adenema Hyssopufolia (Cicendia Hyssopufolia).

Nat. Ord.-Gentianacea.
Ver.-Tam.-Vellaraga. Tel.-Golimidi. Mal.-P
This plant has stomachic and laxative properties; is also used in dysuria, gonorrhoea, gonorrhoeal rheumatism, pruritis and scabies. I have used 'Sucous' (of this plant) and oompond oil for gonorrhoea and gonorrhoeal rheumatism and found them to be useful in those "complainta.
8. Andrographis Paniculata.

Nat. Ord.-A aanthaceae.
Ver.-Tam.-Nilavembu. Mal.--Kiriyat. Tel--Nelavemu.

- The Hindu physicians consider it to be cold and dry, light and flatulent, a remedy for - oolds and cough and bilious affentions, burning of the body and the fever arising from the derangement of the three humuurs which they call "Sannipath". The herb is maoh esteemed by Hindu physicians on account of its tonic and febrifuge properties, and prescribed in malarial fevers attended with burning of the body in combination with aromatios such as ginger, and lemon grass. Dymock notes that it contains two bitter principles ohemically-ophelic acid and ohirettin. A tincturn of chiretta was administered to cases of malarial fever, atonio dyspopsia and debility after malarial fever and was found to be useful in those ailments. Ohiretta in tablets obtained from a chemist in Bombay was administered to a woman suffering from -ohronic malaria who could not tolerate quinine. A protracted use of the lrug cured her.

9. Acalypha Indsca.

Nat. Ord.-Euphorbisoeae.
Ver.-Tam.--Kuppamani. Mal.-Kuppamani. Tel.-Kuppintaku.

- The leaf of this plant is said to be an antiparasiticide and is applied externally ground with common salt or quicklime or lime juice. A paste of the leaves with lime, juice was pres:oribed for cases of ring worm (different varieties of cutaneous taenea). In chronic cases it had no effect but in recent easee it did some good. Hakings nee the entire plant. in the form of deooction as a safe and speedy larative in doses of $\frac{1}{2}$ to 1 fluid ounce.

10. Artemisia marilima.

Nat. Ord.-Compositeac.
Ver.-Tam.-Maohipatri! Mal.-Nilampala? Tel_-Macipatri?
Kirmani powder consisting of the flower heads with an admixtare of small stalks andHeaves of Artemisia Maritima was tried as an anthelmintic in oases of Asearis Lumbricoides (ronind worms) and was found to be efficacious in expelling them with the aid of castor oil. This plant grows according to Kanny Lal Dey at high altitades on the western Himalayas. The flowers contain the important glucoside santonin. The powder was given in doses of 10 to 20 grains to children and 30 to 60 grains to adults.
11. Ailanthus Malabaricum-
Nat: Ord.-Simarubea

Nat: Ord.-Simarubeae.
Tam.-Pera maram. Mal._Perumaram. Tel.-Peddamanu.
This tree is fonnd growing on the west ooast and yields a fragrant resin known as mutti-pal (simarubs) uaed in the Indinn jails as an excellent remedy in dysentery. The juice of the bark administered in ourd or milk twice a day is a favourite remedy on the weat coast for the oure of diarrhcoa and dysentery. Fifteen coasas of dysentery amongat out-patients were treated with the juice of the bark with very satisfactory results. At Cannanore Dr. Thummon Singh, medioal offioer of the central jail there, told me that he found nimaruba a-very efficacious remedy for dysentery among the jail population. Manson in his "Tropical diseases" aleo ppeaks highly of its efficacy in dysentery.
12. Astercanthus Longifolia or Hygrophilla Spinosa-

Nat. Ord.-Acanthaceae.
T'am.-Neremalli. T'el-Neerugubbi. Mal.-Vayalchalli.
The leaves of this plant are cooling and are used in janndice and anasarca, the root is considered a cooling bitter tonic, with diuretio proparties, and is used in rheumatiam, arinary affeotions and ansaserca. The ashes of the plant are used as a diuretic in drospy. A decootion of the root was used in 1-ounoe doses as a diuretic in dropsy of ohronic Bright's disease; and found to be a fair diaretio.
13. Amoora Rohithaka-

Nat. Ord.-Maliaceac.
Ver.-Tam.-Shem-maram. Tel.-Chawa-Manu. Mal-P
The powdered bark is eaid to the very benefioial in casee of onlarged spleen. It was administered to a case of enlarged spleen with no benefit.
14. Boerhavia diffuea-

Nat. Ord. - Nyotaginacere.
Ver.-Tam.-Mukku-rattai. Mal.-Thaehothama Tel.-Puarnave.
Vaidyans consider the root of this plant to possese laxative, diuretio and atomachio propertiee. The powdered roof either alone or combined with oxide of iron (Punaruara Mandoram) was given in several cases of anasarca, the resnlt of Bright's dicose or ansemic ; the drug acted as a diuretic in every case and the patienta derived muoh benetit from ite use. Dose of the powdered rool is $\mathbf{3 0}$ grains three times a day.
15. Berberis aristata -

Nat. Ord.-Berberidene.
Ver.-Tam —and Mal.-Kasturi-Manjal. Tel.—Kasturi-Paeupu.
Kanny Ial Dey asye that the root bark has antipyretio and diaphoretio propertiea, and is used in cawes of intermittent fever. He says, as an antiperiodic it possesese come advantage over quinine inasmuch as in frequently reperted doses it does not produce depresaion of the system and deafness, and may be used even during the attacks of fevar. $\Delta$ denootion of the root bark in doses of 1 to 2 ounces was given to several out-patiente for malarial fever and was found to be beneficial, the effect being very slow.

Chemical composition.-The root and the wood contain the alkaloid, berberine.
16. Brassica campostris-

Nat. Ord.-Crucifereae.
Tam.--Kadugu. Mal.-Vella Kadagu. Tel.-Avalu.

- Siddhartha or white mustard is the seed of this plant. The seeds are used externally like the ordinary mustard; they are said to have beneficial effeot when administered internally in cases of nervons diseases such as epilepay, hysteria and are recommended to be given with Brahmi gritha in suoh cases. The medjcated oil called siddhartha gritha was so administered in a few cases of epilepsy and hysteria with some benefit. Dose $\frac{1}{\frac{1}{2}}$ drachm of the medioated oil.


## 17. Clerodendron Serratum- <br> Nat. Ord.-Verbenaceae. <br> Ver.-Tam.-and Mal.-Cherateku. Tel.-Gantu Bharangi.

It is given in catarrbal affections of the lungs, rbeumatinm and dyspepsia. A decootion of the root of this plant ( 1 in 20) was administered to cases of catarrhal bronohitis with little or no benefit.
18. Cardiospermum Halicacabum-

Nat. Ord.-Sapindaceae.
Tam.-Moodokothan. Mal.-Uzhinja." Tel.-Buddakakara.
The root of this plant is considered to be emetio, larative, stomachic and anti-rheumatio. A decoction of the root ( 1 in 10) is given in half an ounce dose in amenorrhoea and pilen. The leavea smeared over with castor oil are applied over rheumatio jointa. The decootion was given in the out-patient department to cases of chronic rhenmatism with negative result.
19. Croton Tiglium-

Nat. Ord - Euphorbiaceae.
Ver.-Tam.-Nirvalam. Mal.-Nirvalam. Tel,-Nepalam.
Croton oil of the British Pharmacopœia is obtained by expression from oroton seeds and is a powerfal hydrogogue cathartic in dosegoof 1 to 2 drops. The powder prepared according to the following method which is in use by Hindu phssicians was largely used as a laxative and pargative in several cases eapecially in cases of leprosy for which a preliminary treatment by pargation is considered necessary by those who treat that disease. After decosticating the seeds, they were put into cowdung and water just enough to cover them and boiled. They were then taken ont and boiled again in milk. After removal from milk, the seeds were dried and the amall spront between the cotyledons from each seed was removed. The soeds were thereafter broiled on an iron plate over fire until all oily matter was to sll appearance expelled from them. The seeds were then pounded into powder. This powder was mixed with equal part of powdered comin seeds and administered in doses varying from 5 to 10 grs , with very satisfactory result.
20. Cabsia Tora-

$$
\begin{aligned}
& \text { Nat. Ord.-Leguminosæ. } \\
& \text { Ver.-Tam.-Thagaray. Mal.-Thakara. Tel.-Thagirisa. }
\end{aligned}
$$

The leaves, the seeds and the root of the plant are said to contain chrysophanic acid and are used ground in lime juice as a paste for external application to ringworm. An oil named chakx:mardba whose chief ingredients are Cassia tora and Eclipta alba was ased in oasee of: ringworm as an esternal application and found to be very beneficial.
21. Coscinum fenestratum-

Nat.-Ord.-Menis permacem.
Ver--Tam. and Mal. Maremanjal ; Tel. Menu-pasapa.
A decoction of the bark is said to possess tonic and antiperiodic properties. The deoogtion was administered in doses of 1 to 2 ounces three times a day to several out-patients suffering from malarial fever but no beneficial effects were noticed.
22. Calotropis gigantea and Procera-

Nat. Ord.-Asclepiadeae.
Ver.-Tam. Yerukan ; Mal., Yerukam ; Tel., Jilledu.
This is the oommon mudar plant. There are two varieties of this plant, white and red flowered. The milkly juice, the bark and the bark of the root are used by the Indian praotitioners in leprosy, syphilis, diarrhoea, dysentery, rheumatism, elephantiasis and asoites. In intermittent fevers the tinoture made from the leaves is highly recommended. The powdered flower is said to be useful in small doses in cough, cold, asthma and indigestion. Tinot; oalotropis gigantea was tried as an antiperiodio in cases of intermittent fevers. It was found tobe useful in many oases. Powdered root bark in doses of five grains was given to eeveral pases of dysentery and was generally found to give relief.
23. Caesalpinia Bonducslia.

Nat. Ord --Leguminosm.
Ver-Tam., Gatchakkoy ; Mal., Kalanjy Kuru ; Tel., Gatchkaya.
Bonduc seeds-are reputed to possess anti-periodic properties. The powdered seeds were administered mixed with equal part of pepper powder to malarial patients and were found to possess feeble anti-periodic properties. In malignant malaria, they did not do any good. The leaves and seeds after roasting with castor oil are applied extornally to inflammatory swellingeespecially to inflomed piles, hydrocele and orchitis with benefit.

> 24. Cabsia Auriculata.
> Nat. Ord.-Teguminosæ.
> Ver.-Tam., Avarai ; Mal., Aviram ; Tel., Tangedu.

This is known as tanner's cassia as its bark is used for tanning. It has astringent properties and is highly recommended in diabetes mellitus. A decoction of the entire plan̆t was given in one ounce doses three times a day in diabetes mellitus without benefit.

Chemical composition. The bark contains 25 per cent tannin and ash 5 per cent.
25. Chenopodium Ambrosioides.

Nat. Ord.--Chenopodiaceæ.
Ver.--Tam.,
; Mal., Katu-ayamodakam; Tel.
The fruits and the volatile oil obtained by distilling the fruits with steam or water are used as anthelmintic cbiefly for ascaris and ankylostomum. Powdered seeds from 20 to 30 grains doses were tried with negative results. But the oil in ten minims doses expelled the hookworms.
26. Chempullanhi (Ćolsoopterus floribunda).

- Nat. Ord.-Combretaceae.

Ver.--Mal., Chempullanhi.
The tender leaves of this plant, I was told, by physioians at Tellicherry and Payyanur were very efficacious in expelling round worms as they possess laxative properties in addition to their anthelmintic properties. A emall quantity of the tender leaves obtained from Tellicherry and Cannanore were ground and made into pills of five grains and administered to five in-patients in the General hospital; three of the patients passed round worms after their administration. I have been trying to get the tender leaves with the help of the officers of the forest department of North Malabar and South Kanara, but the leaves received from them were fully grown and did not act like the tender copper coloured leaves, whioh I had personally obtained. The Chemioal Examinor reports that an extract of the leaves gave colour reactians whioh resembled those of santonin. The botanist of the Agricultural College, Caimbatore, asys that the name of the plant is Combretum exteusum.

The forest officer who eent me a sample of fully grown leaves from South Kanara says that the name of the plant is Colyoopterus floribunda and it belongs to the natural order Combretacee. I have not the slightest doubt that it will prove to be a good anthelmintio and a very etficient substitute for santonin, especially as the latter is now sold at an exorbitant price.
27. Daemia extensa.

Nat. Ori.-Asclepiadaoese.
Ver.-Tam., Veliparutti, uttamani; Mal., Veliparuti ; Tel., Garutiohettu.
This drug was very strongly recommended for malarial intermittent fevers. The juice of the leaves in half ounce doses as advised was administered to a few cases of malaria without any benefioial effect.
28. Evolculus alsinsoides.

Nat. Ord.-Convolvulacess.
Ver.--Tam., Vishnukranthi; Mal., Vishuukranthi; Tel., Vishnukranthi.
This is administered by Hindu phyaicians in fercrs attended with diarrhcos or indigestion in the form of a deooction of the drug with Ocimam sanotum. It was administered to several cases and did not appear to possesa the properties attrikuted to it.

II- 6
29. Ambelia Ribes.

Nat. Ord.-Myrsinacem.
Ver.-Tam., Vayuvilangom; Mal., Vayavilangam; Tel., Fayuvilangam.
$T$ he fruit is anthelmintic, alterative, and stimulant. It was given to a fow case of suspected Ascaris Lauibriooides without any beneficial effeots. I have had ao oconion for trying it for tape worms for which it is said to be a apecifio.
30. Euphorbia Pilulfera.

Nat. Ord.-Enphorbiaces.
Ver.-Tam., Amampatshai-arini; Mal., Nelapalai ; Tel., Berdinanabrolu.
This is a sruall herb found nearly sll over India. It growa in abondanoe on raosent plote of land in Mudras. There are two varieties one with mall purple leaves and the other with larger green leaves. On plucking the leaves or leaf atalk, milty juice eruden. It is now largely exported to America and to Great Britain. There is no doabt that an oxtraot of this plant has sedative effect on the mucus membrane of the respiratory and genito-urinary trnot. It has been found by me very benefioial in cases of asthme. I have been raing atinoture of it in my private practice in diseases of genito-urinary tract and in ohronio bronchitio and ethme. The result has been very satisfectory. It is a drag which ahould find a pleoe in the treatment of such diseases. The timeture of the drug was given in 16 to 30 drops to oases of athme and bronchitis in the hospital with very beneficial effeot.

## 31. Gudumal.

Pandit Gopalaoharulu gave me a sample of this plant and said that he had obtained it from northern Indis where it was considered to give relief in diabetea. A deoostion of the leaves was given to a patient suffering from diabetes mellitus for uearly two weeks ; the quantity of eugar diminished from 21.9 to 8.75 graine per ounce, but as at the same time the patient was on an anti-diabetic diet, it could not be definitely said whether the improrement was due to the drug or the diet. I have not as yet succeeded in finding the botanioal and vernacular nemes and the natural order of the plant.
32. Gloriosa superba.

Nat. Ord.-Liliacem.
Ver-Tam., Kalaippai-Kizhangu; Mal., Menthoni-Kiehangu; Tel. Agniaika.
It is said that the root of this plant powdered and reduced to a paste and applied to the navel and supra-pubio region promotea labour pains. For the same purpose, it is asid that the paste may be applied to the palms and soles. The vaidyan who gave me the above information at Payyanar also said that the sediment obtained from the powdered root after repested washings (not less than seven times) was useful in diabetes mellitus, in doses of halt a tola twice a day. The powder so prepared from the sediment was administered to a oase of diabetes mellitus with no apparent benefit.

Uhemical composition :-2 resins, tannin and a bitter principle, superbine.

## 33. Hydnocarpus inebrians.

Nat. OTrd,-Bixneas.
Ver.-Tam., Niredu Muthoo ; Mal., Niredumuthoo ; Tel., Neerudu Vithulu.
An oil prepared from the seeds of thie plant is highly valued by the vaidyane as a apeoiflo for the care of leprosy and is considered by them to be superior to ohanl-mogra oil. An oil was prepared from the seeds in the following manner. The thells of the seeds were removed, the seeds were pounded and boiled in water; when all the water was driven away by heating, the oil was decanted. Oases of leprosy were treated as under.

Five grains of powdered oroton seeds prepared as described under oroton seeds, were given every morning for the first 8 or 10 days. This quantity was sufficient to produce 2 or 8 evaouations; thereafter 5 drops of this oil (Oleum hydnocarpus) with equal quantity of python's fat were given and the quantity increased daily by one drop until 30 drops were administerad. Three patients who had the above treatment at the Government Leper Hospital sbowed aigne of improvement but the improvement was very slow; one of them complained bitterly of nsusea and the quantity of the oil had to be reduced. Two of these patients were ohronic cases with nodules on the face aud lobes of the ear, ulceration of the fingers and toes, large ansesthetio patches here and there over the body. One of them had a perforating ulcer of the left foot and one had large anperficial alcers on both legs--the third an advanced ease of anaesthetic type absconded from the hospital after treatment for two weeks.

Four ohronic cases of anaesthetio variety and one of tubercular variety were treated at the hospital with intramusoular injections of equal quantities of oleum hydnocarpas and pythons's fat. Of these one ceased attending after the third injection.

On the first day 10 minims were injeoted. Injections were continned on alternate days and the dose of-the mixed oil increased each time by 5 minims until each patient received 40 minims ; 40 minims were injected for a number of days. There was slow but stasdy improvement. The anaeathesia was gradually disappearing; the ulcers healed one after another, and the thickness of the patches gradually diminished. When the dose reached 30 minims patiente began to feel pain at the seat of injection on inserting the needle.

- -Nothing untoward resulted from these injections such as supparation ; two of these patients were tired of the injections and refased to undergo further treatment. There is no doubt that these patienfs obtsined considerable benefit from these injections. As the improvement was
-slow and the disease long atanding, all these patients were put under 10 minim doses of the oil - of hydnocarpus prepared as above withont python's fat and 20 grains of a oonfeotion prepared by grinding the kernel of the seeds with cocoanat kernel, ginger and jaggery. The oil was given an hour before byealfast and the confection in the evening. Two more hospital osses of ansesthetio leprosy were put on the last mentioned treatment; bat one of them left the hospital immediately after the preliminary treatment.

The ten cases eelected from the Leper hospital for this treatment were of 8 to 20 year's -duration or more, with perforating ulcers on the feet, contracted fingers and toes, with large ulcers on them. Three of these were tuberoular cases and the rest were of anæsthetio variety; some of them had already lost portions of their fingers and toes. Except the nausea ceferred to in one case, none of the patients complained of any ill effent from the treatment; -on the other hand, most of them liked it and some of them were oraving for its continuance. Several out cases of six months to two yeare'duration are now under treatment with the oil and the - confection. One of them has shown marked improvement and he is now almost well, sensation having returned and all small patches having disappeared. The other patients are all showing -tome improvement. From what I have seen I have no doubt that - Hydnocaxpus inebrians is a potent drag for ameliorating the loathsome complications of leprosy.
34. Herpestis mionniora.-

Nat. Ord.-Sorophularinaneae.
Ver.-Tel., Sambrani chettu ; Tam., Nirbrahmi ; Mal., Nirabrahmi.
U. C. Dutt says that this plant is considered a nervine tonio usefal in insanity, epilepsy -and hoarseness of voice-half a tola of the fresh juice of the leaves and 4 grains of Aplotaxis auriculata end honey are to be given in one dose in insanity. Brabmi-Ghritha or a medisated ghee whose ohief ingredient is Herpestis monniera was administered in cases of epilepsy and hysteris and in one cese of ohores; cases of epilepsy were considerably benefited by its nse, the attaoks coming on at loñger intervals. Hysteria cases were completely cured. The case of - chorea did not derive any benefit from it.
35. Hypoxis orchioides or Curculigo orchioides.

Nat. Ord.-Amaryllidese:
Ver.-Tam., Nellapana-kilangha; Mal., Nellapana-kilanghu; Tel.-Nelatha-

## -tigadda.

This tuberous root as sold in the bazaars is about 4 inches long and is in a slight degree bitter and mucilaginous to the taste. It is said to possess tonic and aphrodisiac properties and to be usefal in leucorrhoea, menstrual derangements and gonorrhoea.

A componad powder oonsisting principally of Hyporis orohioidea and Tribulus terrastris was given to two cases of dysmenorrhoea with general debility in the out-patient department bat the result conld not be ascertained, as the patients did not turn up after the first day. It was adminietered to two cases of gonorrhoes without any benefit.
36. Hydrocotyle Asiatica.

- Nat. Ord.-Umbellifereae.

Ver.-Tam., Vallari ; Mal., Katakam or Muthal ; Tel., Bokuduohẹttu.
The entire plant is used by vaidyans in derangement of the three humours. The feaves are used as diuretio and are said to be beneficial in skin diseases, especially in leprosy. For leprosy, it is given in the form of powder, deooction or syrup. A syrup of the leaves was administered to two ceses of ohronic psoriasis. There was some improvement notioed in the patohes after its administration for a few days.

## 37. Lipia Nodifora.

Nat. Ord. Verbinacese.
Ver.—Tam., Poduthalei ; Mal., Katu-thippali ; Tel., Bokkena.
Chutney made from the leaves and fruite of this plant is eaten to relieve the irritation - of internal piles. A fumigation by the compression of the entire plant between two red hot. bricks is said to give relief in inflamed and bleeding piles. The ohutney and the famigation on trial were found to give only temporary relief in stroh cases.
38. Lodoicea Seychallarum.

## Nat. Ord.-Palmae.

Ver.--Tam, Kadalerangham pattai ; Mal., Kadalthenga; Tel., Samudraputen kayee.
The fibrous husk of the nut of this palm is what is known as Kadelerangham pattai. Long before the disoovery of the island of Sejchelles, the entire nuts were found ocoasionally -on the seashore of the West Coast and Ceylon and that is why the Tamil name the sea drifted -coooanut is given to it. The vaidyans consider it useful in reducing the quantity of sagar in the urine in oases of diabetes mellitus and they administer a deooction in doses of 3 ounces three times a day. This decootion was given to two patients in the hospital with diabetes mellitus The sugar, eliminated decreased considerably, but did not disappear altogether. "There was relapse as soon as the decootion was stopped.
39. Melia Asadirachta. (Asadireohta Indica).

Nim or Margose tree.
Nat. Ord.-Melincese.
Ver.-Tam., Vepamarana; Mal., Vepamaran; Tel., Vepeohetta.
The root bark and bark are asid to possess tonic and antiperiodic properties. The leares and nots are said to be insecticide. The flowers are waid to poemenomaohio and carminative properties. A tinotare of the bark of the stem was administered to casee of malarial fever as an antiperiodic and was found to be aseful. A decooticn of the root bark whe aloo tried in malarial fever and was found to be equally efficarious. The mangoen tree is concidered by Hindn physicians to poseess several important propertiee. Mohideen Shariti epeake highly of the toddy or the sap, which on rare oconsions flows out through amall oreoks or faning in the trunk and large branches of the tree as an important therapentio agent in long atanding cases of leprosy, other skin diseases, consumption, stonic dyspepsia and general debility. I have seen the paste of the leaves osed externally in casee of omalipox. The oil expressed from the seeds is a favourite remedy amongst the Indian practitionere an an external application in tetanus.
40. Nigellà Sativum-

Nat. Ord.-Ranunculaceas.
Ver.-Tam., Karun-Shiragam ; Tel., Nella Jeelakkars ; Mal., Karunshiragam.
The seeds are anthelmintic. carminative, ewmenagogue and atomaohic and also galactagogue. A decoction of the seede is given just after delivery to stimulate the uterine contraction and to inorease the searetion of the milk. Broiled seeds powdered and mixed with jaggery are given for the same purpose with benefit. In three mild cases of puerperal fover, the patients were cured by the latter method of treatment.
41. Ocimum sanctum-

Nat. Ord.-Labiateae.
Ver.-Tam. and Tel., Tulasi; Mal., Thnlasi.
The juice of the leaves or decoction of the same is considered to posens diaphoretic, anti-periodic and stimulating expectorant properties. A compoand decoction of Oaimum sanctum, Tinospora cordifolia and Evolvulus alsinoides, was given in oases of malarisl fever with no benefit.

## 42. Picrorrhiza Kurroa-

Nat. Ord.-Scropbularineae.
Ver -Tam., Katukurogani ; Mal., Katukhurohani ; Tel., Katukkurohini.
This drag consists of a rhizome generally of the aize of a goose quill. Late Doctor Mohidheen Sheriff considered this to be a powerful bitter tonio and anti-periodic, and a ulight laxative. It was administered as an anti-periodio to a large number of casea bat the action' was found to be slow. There is no doubt that it possesses anti-periodic propertiee in a mild degree.
43. Plumbago ZeylanicumNat. Ord.-Plumbaginaceae. Ver. -Tam., Chittira moolam ; Mal., Kodiveli ; Tel., Chithramoolam.
The roots of Plambago zeylanioum and rosea are more or less vesicant and are applied in the form of a paste with rice conjee to buboes and abscesses with the ohject of making them burst. They enter into the composition of numerons medicines for dyspepaia as they are said to increase the digestive power and to promote appetite. The root of Plumbago rosea taken internally is said to be aborti-fascient, and the root is at times introduced into the mouth of the womb for the same purpose on account of its canstic properties. The powdered root is administered in 10 to 20 grains doses in chronic dyapepsia. It is recommended also in rheumatiam and hemiplegia. A compound powder consisting ohiefly of Plambago zeylanicum, Hydrocotyle asiatica, and Acorus calamus, was administered for a considerable longth of time to two cases of hemiplegis without any benefit.
44. Podophyllium Emodi-
Nat. Ord.- Berberideae.
Ver.

This was administered in the form of a tincture to six cases and was found to posesse. all the properties which the podophyllin of the British Pharmacopocia possessed. It actesas. hepatic stimalant and cholagogue pargative.

## 45. Pedalıum murex-

Nat. Ord.-Pedalineae.
Ver.-Tam., Anai-nerunji ; Mal., Katu-nerinjal ; Tel., Yenuga-palleru.
This plant when shaken op with water renders the latter mucilaginons. It is used forthe cure of gonorrhœa and dysuria. The seeds bave the same property. A decoction of theleaves was given to cases of gonorrhcea and the result was not satimfactory.

## 46. Ruta Auyustifolia-

Nat. Ord.-Rataceae.
Ver.-Tam., Sadhapa, Mal., Arooada ; Tel., Sadhapa.
This plant has strong antispasmodic properties; the jnice of this plant is generally presoribed on the West Coast in convalsions of ohildren and in acute bronohitis, and pneamonia. The juice undoubtedly possesses anti-spasmodic and expectorent properties. I have found ituseful in the bronchial catarrh and aonte bronchitis of ohildren.

## 47. Salamisri-Salep-

This orohid is imported from, Persia, Kabul, and Northern India into this Presidenoy. It is probably obtained from various speoies of orchids. The dry tuber has a great repatation as a nervine restorative and strength giver. It is presoribed in hemiplegia and paralytio affections. This drug was administered in the form of powder in teaspoonful doses in milk, twice a day to a private patient suffering from nervous debility. He derived some benefit from its nee.
48. Toddalia Aculeata-

Nat. Ord.--Rutaceas.
Ver.--Tam., Milakaranay; Mal., Kara ; 'Cel., Mirapa-kandra or Konda-kaeindha.
The bark of the root of this plant is said to be a specific for bill and jungle fever (probably malarisl fever). The entire plant is said to possess febrifuge properties. An infusion was made of the bark and prescribed for several mild cases of malarial fever in the out-patientdepartment with very beneficial results.
49. Trichosanthés Cucumerina-

Nat. Ord.--Cucurbitaceaē.
Ver.--Tam., Katup-pepudal ; Mal., Katu-padolam ; Tel., Adavi-potla.
The juice of the leaf has emetio properties.
The jaice of the root is a strong gastro intestinal irritant ; a deooction of the root is said to possess, anti-periodic properties. This decoction was administered in doses of one ounce threetimes a day to several cases of malarial fever but the result was not satisfactory.
50. Trichosanthes palmata-

Nat: Ord.--Cucurbitaceae.
Vè.--Tam., Shavari-pazham, korattai ; Mal., Kakatönti, Tel. Avıugūdha pandu.
The fruit of this plant is a viclent hydrogogue oathartio. The oil obtained by boiling it in gingelly or cocoanut oil, when applied to the soalp, is said to oure hemiorania and ozena. The oil is dropped into the ear in cases of ottorrhoes. In my private practice I have found this oil useful in ouring hemi-orania.

## 51. Terminalia Arjuna-

Nat. Ord.-Combretaceae.
Ver -Tam., Marudu maram ; Mal., Venmaruthu; Tel., Tellamaddi ohettn
The bark of this plant is said to be a oardiac tonio and is considered by the vaidyans to be a apecific in disorders of the heart. A deooction of the bark was administered to a case of valvular disease of the heart with palpitation and pain over the region of the heart. He did not derive any benefit from its administration.

## 52. Taxus Baccata-

Nat. Ord.-Coniferere.
Ver.-Tam. and Mal., Talispatri; Tel., Thalispatri.
This is an ingredient of Ayurvedio Talisyedhi charnam (compound powder of Taxue baccata) which is given generally in pulmonary diseases. The drug is given in asthma, cough and hæmoptysid. The effect of the compound powder is given under componnd drugs.
53. Thespesia Populnea-

Nat. Ord.-Malvaceae.
Ver.-Tam. Puvarasha Maram; Tel., Gangireni ; Mal., Poovarisham, ohandamaram.

The leaves of this tree are ground into a paste and applied externally in ohildren's eosema; so also an oil prepared by boiling the gronad bark in cocoanut oil is applied externally in psoriasis and scabies. The contents of the fruit which is a capsale are applied externally to ringworm: A decootion of the bark is given internally in akin diseases. The ground leaves and contents of the capsule applied externally in eczema and ringworm respeotively were found to be useful. A oompound oil of the bark and capsule was given in oases of urethritis and gonorrhoea with beneficial resalts.
54. Tinospora cordifolia-

Nat. Ord.-Menispermaceae.
Ver-Tam.-Amrdavalli, Sindilkodi; Mal., Chittamritam; Tel., Tippatigah.
The entire plant is regarded as a valuable alterative and tonic. It enters into the composition of a large number of prescriptions for different fevers and for chronic skin dieeases. It is also used in general debility with other ingredients. Its principal use is in fevers. The hakims prepare a watery extract of the drag and some of them call the extract the Indiangainine. This extract, when pure, is white in oolour and consists ohiefly of staroh.
II. 6

In all the ay arvedic precoriptions which conaist of regetable druge for forers, Tinompore -ordifolis is conedered to be an important iogredient. No doobt it is a fabrifuge of come value. I have foand it efficecious for ordinary aimple fevere resulting from oold or iodigetion in ohildren. For this parpose it in administered in the form of a decootion with oyperua rotundus, ginger, aandal wood, and oldenlandia-herbeoon. A tinctare of this drug wee tried in mild cases of malaris in the out-patient department and wan found to be uesless in such coseces. The aqneons extraot above referred to is oalled by hatime 'Satt-gilo'. It je administered by them in ohronic fevers and aleo in diabetes. A few yeare ago, I tried thic extract in the low ohronio fever of kala-acear and uleo in diabetes. I did not find it to poseses the virtuen attribated to it.

Chemixal composition--Satt-gilo on analysie was found to be cimple atarob. The ateme -oontain a trace of berberine.
55. Tribulue Terrestris-

Nat. Ord - Zygophyllene.
Ver.-Tam.-Neringi ; Mal., Neringal ; Tal., Palleru-mullu.
The entire plant, but more partioularly the fruith, are used in medioine. They ponnees cooling, diuretio, tonic and aphrodisiao properties and are naed in dyauris, urinary disorderm calculoue affections and impotenoy. It was givien a good trial in Bright's disease with dropay. All the patiente derived muoh benefit by its nee.

It was also used oombined with bdelliam in a patient anfering from gonorrboesl rheumatism with oystitis. The patient reoovered without interruption.
56. Urginea Indica-

Nat. Ord.-Lilizeese.
Ver.-Tam.-Nari-vangayam; Mal., Kanthanga; Tel. Adavi-thellagadde.
On the West Coast the bulb of this plant io rubbed and applied to the soles of the feet to relieve burning. In small doses the drag posesses stimulant, expootorant and diuretio properties. In large doses it is emetio and oathartio. In the furm of a gyrup it was adminiotered as an expectorant to cases of bronohial oatarrh and ohronio bronohitis in the out-pationt department and was fonnd useful in those affections. The syrup was propared from the expreseed juice of the balbs the strength being 1 in 2.
57. Viola Odorata-

Nat. Urd.-Violaceae.
Ver.-Tam.- ; Tel. ; Mal.
This is the Banafahah of hakims who value it as a strong febrifugo in aonte and ohronio fovers when given in combination with other druge. Mohideen Sheri! in his Materis Medios - of Madras gives the ingredients of a compound dooootion which he foand useful in relieving pyrexia of obstinate and long standing casea of typhoid fever, after European medioines generally ased, had failod. The same deooction was adminiotered to a oase of ohronio ferer without any benefit at all. In the oat-patients a simple infusion of viola odorata was given to toveral oases of pyrexia and intermittent fevers without benefit.

## 58. Vernonia Anthelmintica-

Nat. Ord. Compositem.
Ver.-Tam., Kattu-ehiragam ; Mal., Katu-jerakam ; Tel., Adavi-jeelakara.
The seeds of this plant are considered to posesese very atrong anthelniutio properties by vaidyans: They are also administered in cases of intestinal colio and dysurin. They also enter into the presoriptione for levicoderma, psoriasis and other skin affections. The powdered eeeds followed by castor oil were tried for removal of round worme in it to 11 drachms doses and the result as far as conld be ascertained showed the seods to poseess considerable anthelmintio properties.
59. Vernonia Cinera-

Nat. Ord. Compositem.
Tam., Poovamkurundhal, Sabadevi; Mal., Pavankurantal ; Tel., Gharitikamini.
This plant is considered to possess strong diaphoretio properties and io generally given by vaidyans to produce perspiration in fever. By iteelf, it has no antiperiodio property but when combined with amall dose of quinine, it appears to help the aotion of the latter in malarial fevers. At Cannanore, I found that one of the vaidyane there, was treating cases of malarial fever with vernonia cinera and 5 gre, of quinine made into a bolaب with lime juice administered -every morning. I tried this method in several cases and fonnd it to be a neeful combination.
60. Falerian Indica or Jatamansi-

Nat. Ord. Valerianaceae.
Ver.-Tam., Jatamansi ; Mal, Jatamamai ; Tel., Jatamamsi.
Jatamansi or the Indian valerian is said to possess all the properties of the offcinal valerian. It is said to be anti-spasmodic and useful in intestinal colic. It enters into the composition of a onmponnd powder which is burnt and nsed forinhalation in bronchial affections. A tincture of it was used in the ont-patient department in intestinal colic and fatulence, and found to give relief in those complainta.

## 61. Woodfordia floribunda-

 Nat, Ord. Lythraceae.Tam., Thatharipushpam ; Mal., Thatharipos ; Tel., Dhataki, arraypuvva.
The dried flowers of this beantiful flowering shrab are regarded as stimulant and astringent and are much used in combination with other astringent medicines in dysentery; menorrhagia and other hemorrhages. In the preparation of the medicated spirituous liquors known as asava and aridhta, the flowers are added to set up fermentation. The powdered flowers wero given in 10 to 20 grains doses with honey in dysentery and were found to be benefioial.

## 62. Zingiberis Officinalis-

Nat .Ord. Zingeberaceae.
Tam., Inji ; Mal., Inji ; Tel., Allamu.
Dry ginger enters as an ingredient into several combinations in the Indian Pharmacopooia. Vaidyans attribute to this drug stimulant, digestive and oarminative properties. At Payyanar, in Malabar, I was told that the juice expressed from fresh ginger in gradually increasing doses was a strong diuretic in cases of general-dropsy whstever the cause might he. In three cases of ascites with dropsy arising from cirrhosis of the liver of recent origin, there wres, when the juice was so administered, complete subsidence of asoites and disappearanoe of the dropsy. The fresh juice of the drug aoted as a strong diuretio. The patients passed gradually increasing quantities of urine daily. It did not prove effioaoious in dropsy of ohronic Bright's disease and chronic heart disesse; on the other hand such cases became worse under its use. Long-standing oases of cirrhosia-with asoites did not derive the slightest benefit from its administration. I have no doubt that fresh ginger juice, when properly administered will be found beneficial in oases of early cirrhosis of the hiver with ascites and dropsy of the lower limbs.

The dose and method of admonistration.- Fresh jaice of ginger' expressed from 5 tolas weight of the drag mixed with an equal quantity of sugar is to be given on the first day in the morning. This is to be increased by juice expressed from $2 \frac{1}{2}$ tolas weight of ginger daily until the juice from 25 tolas weight is administered. The quantity is to be diminished in the reverse order every day till it comes baot to juioe from 5 tolas weight. If there is still any dropsy left, another course ought to be gone through in the ascending and descending order.

Diet.-The patient should be put on milk and oonjee diet. This deserves a further trial.

## 68. Ophiorrhisa Mungos-

Nat. Ord. Rubiacere.
Ver.-Tam., Kiripundu ; Mal., Avilpori ; Tel., Surpashe chettu.
The bark of the root of this plant, I was told by a physician of the west coast possessed laxative and sedative properties. He gave the following directions for its administration.
"Take the bark of the root of this plant, grind it into a paste and make boluses of the size of the lime each. Give one of these-in uilk early morning for three days. This would keep maniaos quiet and move their bowels freely." The Superintendent of the Lunatio: Asylum, Madras, to whom I sent this drag for trial, reported after its administration to two cases that it did not possess the properties attributed to it.

6 1. Gomuthram or coo's urine-
It is highly recommended in cases of oirrhosis of the liver and for this parpose fresh uxine has to be given early morning in doses of one to two ounce日. This was given to two cases of cirrhosis of the liver without benefit. Calf's urine is said to be beneficial in that fatal disease of infants known as infantile biliary cirrhosis. I tried this method of treatment in a few private cases. None of the infonts derived any benefit from it.

## Thb pollowing single drugs haye ailzeady bern beported upon and incleded in the Preliminary Repobt.

1. Bombax Malabaricum.
2. Bambusa Arundinacea.
3. Holarrhena Anti-dysenterica.
4. Cleome Visooss.
5. Aoonitum Heterophyllum.
6. Adahatoda Vaaica.
7. Semicarpus Anacardinm.
8. Withenia Somnifera.
9. Ipomea Turpethom.
10. Eolipta Prostrata
11. Butea frondoba.
12. Vands Roxburghii.
13. Gaggalu.
14. Oxalis Cornioulata.
15. Silajatu.
16. Sida Cordifolia.
17. Phyllanthos Emblion.

## Indea of Single,Drugn

Serial number and name of the drag

1. Alstonia Scholaris.
2. Asparagus Racemosus.
3. Anisomeles Malabarioum.
4. Anacyclus Pyrethrum (Pellitory).
5. Areca Cateohn.
6. Acorus calamus.
7. Adenems Hyssopufolia (Cicendia Hyssopufolis).
8. Andrographis Paniculata.
9. Acalyphe Indica.
10. Artemisis Maritima.
11. Ailantbun Malabaricum.
12. Asteracanthus Longifolis or Hygrophilla Spinosa.
13. Amoora Rohithak a.
14. Boerhavia Diffusa.
15. Berberis Aristata.
16. Brassica Campeatris.
17. Olerodendron Serratum.
18. Cardiospermum Halicacabum.
19. Oroton Tiglinm.
20. Сasві Toza.

Berial number and name of the drag.
21. Coscinum fenestratum.
22. Calotropis gigantes and Procers.
23. Caesalpinia Bonducella
24. Cassia Auríoulata.
25. Chenopodium Ambrosioides.
26. Chempallanhi (Colycopterus Floribanda).
27. Daemia Extensa.
28. Evolvulus Aleinoidea.
29. Embelia Ribes.
30. Euphorbia Pilulifers.
81. Gudumal.
32. Hlorioss en perba
33. Hydnocarpus inebrians.
34. Herpestis Monniera.
35. Hypoxis orchioides

Curenigo orohioides.
36. Hydrocotyle Asiatica.
37. Lipis Nodiflors.
38. Lodoicea Beyohallaram.
39. Melia Azadirachtà.
40. Nigella Sativam.

Sarinil number sad name of the drag.
41. Ocimnm Banotum.
42. Piororrhiva Karroa.
43. Plumbagn Zeylanioum.
44. Podophyllinm Kmodi.
45. Pedalium Mnrex.
46. Kuta Angnatifolia.
42. Ralamigri-Salep.
48. Toddalia Aouleata.
49. Triohounthea Cuoumerins.
50. Triohomanthes Palmatin.
51. Terininalia Arjuna.
62. Taxus Baceats.
53. Thespesia Populnea.
54. Tinospors Cordifolis.
65. Tribulas Terreatris.
58. Urginea Ladica.
67. Viola Odorata.
58. Vernonis Anthelmintics.
59. Vernonia Cinera.
60. Valerian Indio or Jatamansi.
61. Woodfordis Floribands.
62. Zingiberis Offioinalis.
63. Ophiorrhiss Mangos.
64. Gomuthram or cow's arine.

## APPENDIX No. 2-B. <br> Compound Prppaiattons, Inviratigityd. <br> Basmams.

1. Abbrak basmam or Talc basmam (calcined 100 times)-

## Dose-2 to 6 grains.

Ther. use-Useful in oonsumption, diabetes mellitus.
The basmam that was used by me was one which was caloined 100 times and obtained from Zandu Pharmacy, Bombay. This was administered to four cases of diabetes mellitua and one oase of tubercalar phthisis. The latter did not derive any benefit from its use but in all the cases of diabetes mellitus, there was a gradual diminution in the quantity of sugar eliminated in the arine and the patients gained strength. Sugar did not completely disappear from the arine under its use.
2. Coral basmam-Or Pravala basmam (Calcined coral)--

Dose-3 to 12 grains, twice a day after meals.
Ther. nse-Useful in spermatorrhces, cough, phthisis, etc.

- Pravala basmam is used by vaidyans in spermatorrhœes, cough and phthisis. It was administered to cases of chronio bronchitis and pulmonary tuberculosis. It didallay cough to a oertain extent in palmonary tuberculosis, but the patients were not otherwise benefited. In ohronic bronohitis, it gave relief to a few patients.

3. Mukta basmam-Pearl basmam or Calcined pearl-

Dose-2 to 6 grains, twice a day with honey.
Ther. use-Useful in oough, phthisis and asthma.
Thie was given to oases of bronchitis and found to be beneficial.
4. Makshika busmam (Calcined Iron-pyrites)-

Dose.-2 to 12 grains, twice a day after meals with honey.
Ther, nse--Anæmis, chlorosis, heart affections.
This was administered to a patient with marked anæmia from ankylostomiasis after the nsual thymol treatment for the expulsion of worms. This basmam was administered for several days bat the improvement was so slow that it had to give plaoe to a better drug.
5. Raupya basman (Calcined silver)-

Dose.-2 to 6 grains, to be taken twice a day with honey.
Ther. nse.-Useful in general debility.
This was tried in oases of general debility with negative result.
6. Tamra basmam-(Calcined copper)-

Dose.-2 to 6 grains, to be taken twice a day with honey.
Ther. uss.-Useful in cough and asthma.
This was tried in a few cases of asthma and bronchitis and found to give relief in those cares.
7. Annabedhi sinduram-

Preparation.-Prepared by caloining ferrous sulphate and nitre ground in lime juice.
This is evidently a compound of the oxide of iron with a small quantity of the citrate of iron.

Dose.-1 to 3 graina, three times a day after food.
I have found this preparation to do considerable amount of good in cases of seoondary anmmia. It has no constipating after effecte and is well borne by patients. In my opinion it is equal it not superior to reduced iron and Bland's pills. Another point in favour of it is that it can be prepared easily. It was administered to several oases of anmmia, result of ankylostomiasis, anmmia of ohronio Brights disease, and infantile biliary-oirrhosis. It did not do any good in the last mentioned disease, but in all other cases the patienta were benefited to a great oxtent.

## Churnams.

7a. Ashta churnam-
Composition (vide prescription No. 7a).
Dose-1 to 2 drs .
Ther. nse-Useful in indigestion, dyepepsia, lose of appetite.
This was given to several oases of weak digeation with loss of appetite and was found to be a good appetiser and stomsohio tonio.
8. Avipattikar churnam-

Cumposition (vide presoription No. 8).
Preparation 15 grains tablet.
Dose-2 to 8 tablets.
Carminative and larative.
Juitable in hyperacidity and indigestion.
Thia was given to several cases of atonio dyspepsis and mild gastritis with nome benpfit.
9. Arkemoola ch wrnam-

Composition (vide presaription No. 9).
Vide Calotropis giganten ander aingle drags.
10. Chithrakamuladhi chwornam-

Oompound powder of plumbago zoylanioum.
Composition (vide prescription No. 10).
Dose- 10 to 30 gra., three times a day.
Said to be useful in epilepsy, hysteria, manis and other montal disordere.
This compound powder was administered to a young, man who was badly suffering trom frequent attacks of epileptio fits. It showed a alight benefioial effeot by inoreasing the interval between the fits. U. O. Dutt says the root of plumbago saylenioum is asid to heve beneflain effect on piles, but I have had no ocosaion to asoertain this property.
11. Oompound cough powder-(Compound powder of Justicia adhathoda)-

Oomposition (vide presoription No. 11).
Dose-2 to 6 grs.
Ther. ase-In bronohial oatarrh and bronohitis.

- This compound powder prepared by a hakim was administered to two cases of bronchial catarrh and was found to be unsatisfaotory.

12. Compound constipation powder (Pulv. Rhei Co. Unani).

Oomposition (vide presoription No. 12).
Ther. nes-In constipation.
This was given to 10 putients for constipation and found to have good effeot.
13. Elati churnam (Pulv. Cardomomi Co.)-

Composition (vide prescription No. 13).
1'reparation-powder.
Dose-5 to 20 grs.
Ther. use-Used in general debility and bronchial affeotions.
This was presoribed to a few cases of acoute bronohitis in the out-pationt's department and the result was good.
14. Gangadhara churnam-(Leghu and Brohat)-

Oomposition [vide prescription No, 14 (a) and (b).]
Preparation-powder.
Ther. use-Astringent and intestinal tonio.
Dose-20 to 40 grs . to be taken thrice a day.
These two compound preparations were administered to several cases of aoute and ohronio dysentery and obronio diarthcea and were generally found to be useful; bat whon they failed in cases of dysentery, emeține hydrochloride at once gave relief.
15. Kalyanaksharam-

Composition (vide prescription No. 15).
Preparation-A compound salt.
Dose- 30 to 60 grs., twice a day with ghee.
Ther. use-Reputed to be a specifio for all forms of dyspepeia,
It was administered to several cases of chronio gastritis and dilatation of the stomsoh. In the former, appreciable benefit to the patiente was noticed and in the latter the result was negative.

> 16. Lavangadhi churnam-
> Compound powder of oloves.
> Composition (vide presoription No. 16).
> Preparation-powder.

Dose-20 to 60 gr . to be taken three times a day.
Ther. use-When gradually dissolved in the mouth and awallowed, it relieves cough.
This was given to a few oases of bronchial catarch for relieving congh with good effeot.
-17. Musalyadhi ch urram-
(Vide No. 35-single drags).
Composition-See prescription No. 17.
18. Powder for Inhalation in Influensa-

Composition (See presoription No. 18).
The inhalation twice a day of the fumes arising from a barning wick containing this powder is said to act as a prophylactio against influenza and to mitigate the severity of the symptoms of that disease. I have tried it suffioiently to remark that the powder poseeness to some extent the properties attributed to it.
19. Bohitaka churnam-

Composition-See preacription No. 19.
Vide notes on single drugs No. 13.
20. Svoayamagni-

Composition (vide presoription No. 20).
Dose-3 to 7 grains to be taken twioe a day:
Ther. use-Usefal in stomach-ache, iadigestion and dyspepsia.
This compound powder is said to be a cortain cure for stomaoh-ache; indigestion and anmmia. This was tried in five oases of dyspepsia without any benefit.
21. Swadishta virechena-

Oomposition (vide presoription No. 21).
Dose-1 to 8 grains.
Ther. nse-Lexative and efficaoious in piles, constipation and fissure of the anus. The powder was administered to three cases of habitual nonstipation and found to be usefal.
22. Saraswathi churnam-'

Composition (vide presoription No. 22).
Dose-20 to 80 grains thrice a day ia milk.
Ther. uee-Alterative, and Brain tonio.
Said to be useful in epilepsy, manis, hemiplegia and loss of voice. This was tried in two -sosses of epilepsy withort any benefit.

Confections, Leghiams and Ghrithams.

23. Amritha Bhalataki-

Composition (vide presoription No. 23).
Ther, use-Alterative tonio in skin diseases.
Dose-20 to 90 graina.
Recommended for leprosy, acrofula and syphilitio diseases.
This was administered in scabies and psoriasis and was foind to be useful wheñ continued ufficiently long.
24. Amritha prasaghritha-

Oomposition (vide presoription No. 24).
Dose- $\frac{1}{8}$ to 1 oz .
Ther. use-General tonio.
Useful in oonsumption, emeoiation and general debility.
This was given to two cases of advanced tabercular phthisis-no beneft was noticed.
25. Abhayamaliki-

Composition (vide presoription No. 25).
Dose- $\frac{1}{4}$ to 1 tols.
Ther. use-Alterative and tonio; useful in general debility with weakness of memory.

This rasayan was fond useful as a tonic in general debility after fevers.
26. Aasaircrisah-

Oomposition (vide presoription No. 26).
Ther. use-Tonio for the heart and nerve.
Dose- $\frac{1}{2}$ to $\frac{8}{4}$ tola with milk.
This Unani halwa is extolled as a very strong tonio for the heart, brain and liver. It is said to be useful in genersl debility, sexual debility, and in bronohitis and asthma. 'This has been fonnd to be a good tonic in general debility.

## 27. Bramhi Ghritha-

Noted under Herpertis monniera. Bingle drage.
Composition - (vide preseription Na. 27).
28. Ohyavanaprash--

Composition-(vide presoription No. 28).
Dose- $-\frac{1}{2}$ to 2 tolas.
Ther, nese-Nutritive and tonio. Strengthens the body. Useful in general debility - and debility of old age.

This was given to two oases of general debility with satisfactory resalts. Patients improved in their health, regained lost appetite and gained strength.
29. Dasamoola Rasayanam (Oontection of the ten roots)-

Composition-(vide presoription No. 29).
Dose-n to $\frac{3}{8}$ tola.
Ther. use-Useful in asthma, cough and consumption.
This was given in combination with oonfeotion of Justioia adhathoda in eases of asthma was found to be a useful adjonot to the latter in relieving the fite of asthma,
80. Taskwnadhi Ghrithano-

Composition-(vide presoription No, 30).
Dooe- to 1 tola.
Ther. use-Stimulant and carminative.
This wae given to a few oasee of atonio dyspepsin and fonnd to have benefiaial effeot on: the disease.
31. Majoonai Khwoathiaibah or manly power-

Composition-(vide preecription No. 81).
Ther. use-Tonio for the heart and brain end useful in cexnal and general debility. Dose- $\frac{1}{2}$ tola.
This medicine was given as a tonio and was found to improve the appetite and to gredually inorease vigour and strength.
32. Kushmanda Rasayanam-

Oomposition-(vide presoription No. 32).
Dose- $\frac{1}{8}$ to 1 tola.
Ther. use-Said to be useful in consamption, bronahitis, apitting of hloor, general debility, eto.

This was given to two cases of pulmonary tuberoulosis and the patienta did not derive any benefit.
33. Shrirag (Oonfection of fruits of aegle marmelos)-

Composition-(vide prescription No. 33).
Dose- $\frac{1}{2}$ to 1 tola.
Ther. use-U $\begin{gathered}\text { beful in ohronic diarrhosa, dyeentery and aprie. }\end{gathered}$

- A case of chronic dysentery, to which it was administered, was curad.


## Decoctions or Quaths.

34. Abhaydhi quath-

Composition-(vide prescription No. 34). *
Preparation-Compound decoction.
Dose-1 to 2 ounces twioe a day.
Ther. nse-Alterative, bitter tonio and slightly laxative.
It was administered to cases of bronchitis with fever and constipation and it proved to bo a good remedy in relieving the symptoms in such cases.
35. Dasamoola quath-

Composition-(vide preseription No. 35).
Decoction of the ten roots.
Dose-1 to 2 ounces taken twice a day (ingredients of this decootion enter into meveral other compound preparations). They are considered to be antipyretio, alterative and bitter tonic.

The decoction is extensively used in congh, cold, nearalgia, eto., remittent fever, puerperal fevers, and many other diseases supposed to have been caused by the derangement of all the humours.

This was administered to three in-patients and eeveral out-patients for malarial fever and bronchitis and bronchial catarrh. It did not do good in malarial fever but wae of some benefis in bronchial affections.
36. Gudoochyadhi quath-

Composition (vide presoription No. 86).
Preparation-Componnd decoction.

- Ther. use-Bitter tonio, stomachie and antiperiodio. Useful in anorexia, dyopepaia, dyeentery and malarial fever.

Dose- 1 to 2 ounces twice a day.
It was tried in several eases of malarial fever but the aotion was very olow and even in slight cases it required about a week to stop the fever.

## Fermented infusions and decoctions.

37. Drakshasava (fermented juice of grapes)-

Composition--(vide prescription No. 37).
Dose- $\frac{1}{2}$ to 2 tolas to be taken twioe a day after food.
Ther. nee-Stimulant, tonic and diuretio.
This preparation actod as a good appetiser and tonio in a young woman who was weakand anaemio.
38. Kutajaarishta (Fermented decootion of Hollarhens antidysenterios)Composition (vide presoription No. 38). Dose- $\frac{1}{2}$ to 2 tolas.
Ther. use-Astringent and antiperiodic; useful in obronio diarrhosa, dysentery and aprue.

A patient with oulitis and diarrhces was relieved by its uso.
39. Loha Asava-

Composition (vide prescription No. 39).
Dose- $\frac{1}{2}$ to 2 tolas.
Ther. use-''onio, haematinic, useful in anaemic dropsy and diseases of the spleen.
This was given to a patient with artaemia and to another patient with enlarged spleenBoth of them did not derive any benefit.

## Linsments, Thailams and Ointments.

40. Ȧdithyapaka Thaila-

Composition (vide presoription No. 40).
This is said to be a care for scabies; several cases of acabies were treated among the outpatients with this ointment and were oured by its use.
41. Aswaghandha Bala Lakshadhi Thailam -

Compound oil of Withania somnifera, Sida cordifolia, lao, ete.
Composition (vide presoription No. 41).
Dose-3 drops to be increased daily by one drop to 10 drops.
Ther. use-In all fevers, mania, consumption, asthma, rheumatio complaints.
The oil was highly recommended to me as a specific for consumption by a physician at Nellore. I got a small supply of the oil from him and tried it in six oases of tubercular phthisis--none of the patiente derived any benefit from it although directions "enjoined by the physician were strictly observed.
42. Chakra-mardha Thaila (Compound oil of cassia tora)-

Composition (vide prescription No. 42).
Ther. use-Eczema, ringworm, and other skin diseases.
This oid was tried in some cases of ringworm with very satisfactory results.
43. Dadrughna ointment. Ringworm ointment)-

Composition-Chief ingredient is Rasakarpoora or perohloride of mercury (yide prescription No. 43).

Ther. use-Antiparasitio, and esoharotic; useful in ringworm and in other paranitio skin diseases.

In several oases of ringworm among the out-patients, this ointment generally proved to be an efflcient parasitioide.
44. Ksheerabala oil ( 101 times boiled)-

Composition (vide prescription No. 44).
Oil prepared from sida cordifolis, sesamum oil and milk.
A summary of its use has been already given in my preliminary report.
This oil is the most renowned Malabar specific for internal and external use in nervous diseases suoh as neuralgia, hemicrania, paralysia, paraplegia, hemiplegis, facial-paralyais. sciatica, etc.

Since writing the preliminary report, the oil has been used in cases of facial paralysia, and cervical and brachial neuralgia with benefit.
45. Compound oil cf vitex negundoo-

Composition (vide presoription No. 45).
Ther. use-For glandular swellings of the neak.
This oil was given to three cases of tubercular glands of the neek to be.rubbed on the head before their daily baths. In one case the swelling of the glands went down after the oil was used for a month. The other two cases did not derive any benefit.
46. Panchavalkaladi Thailam-

Composition (vide prescription No. 46).
Ther. nse-For external application in skin diseases cansed by vitiated blood or bile, such as eozems.

This has been tried in a few cases of eozema and fround to be useful. -
47. Vidanga Thaila -

Composition-ohief ingredients are Embelia ribes, Croton tiglium and oarbonate of sodium (vide presoription No. 47).

Ther, use-To be applied to the forehead or dropped into the nose for relieving headaohe.

This was used in cases of hemioranis with negative result. .
48. Tishagarbke Thaila-

Composition-chief ingredeints are Vitox negundoo, Eclipte albe, Datare atrana onium and Aconite (prescription No. 48).

Ther. use-Useful in neuralgia, earacho, paraplegia, homiplegia, lumbago, tha
This was tried as an external appliontion in hemiplegia and neuralgia without benefit.

## Palls.

49. Abhayds modak (Compound tablets of Chobulio myrabolana)-

Composition (vide presaription No. 49).
Preparation-5 grains tablet.
Dose-1 tablet.
Ther, use-Cathartio.
This was given to eoveral cases of constipation in the out-patiente department with aatisfactory results.
50. Amritha Gugulu-

Composition (vide presaription No. 50).
Preparation-6 grains pills.
Dose-1 to 4 pills three times a day.
Ther. use--Alterative, astringent and tonio.
Useful in rhenmatism, boils, ulcers, etu.
This compound preparation of bdallium in the form of pills was administered to tro cases of chronic rheumatism in the out-patient department; the result was not eatiafactory.
51. Chandraprabha gutska-

Oomposition (vide prescription No. 51).
Preparation-6 grains pills.
Dose-1 to 4 pills three times a day.
Ther, use-Tonic, diuretic and antacid, said to be useful in albumiauris, phosphsturis and gonorrhoea.

These pills were tried in four cases of gonorrhoes amongot the out-patients with marked benefit.
52. Dhanwantari pillo-

Composition (vide prescription No. 52).
Dose- 1 to 8 pills three times a day.
Ther. use-Useful in hiccoagh, vomiting, fainting and also in disordere of the phlegm humour.

These pills were tried in a case of hiccough withont any benefit:
53. Gokshuradhi Gugilu-
(Pills of 6 graine each).
Composition (vide presoription No. 53).
Dose-1 to 4 pills three times a day.
Ther. use-Demuloent, diuretic and alterative; aseful in albuminaria, dycuria, calculi, gonorrhoea and rhenmatism.
1.These pills were administered to a patient with gonorrhoeal rheumatism and gleet and were found to give mach relief.
(Vide notes on single drags-Tribulus terrestris.)
54. Mandura Loha-

Composition (vide prescription No. 54).
Ther. nse-Tonic and haematinic. Useful in asthme (between altacks), general and serual debility, enlargement of spleen, heart disease and wherever there is porerty of blood. Dose- 1 to 4 pills of 2 grains eaoh to be taken twice a day after food.
The action of this drug wasfound to be very slow and unsatisfactory in secondary ansmis.
55.' Purlarnasa Manduram-

Composition (vide prescription No. 55).

- Dose- 1 to 4 pills to be taken twice a day after meals.

This combination is a general tonic, haematinic, and diuretic.
It is useful in anaemic dropsy, Bright's disease and genersl debility. This was administered in dropsy accom panied by anaemia and was found to bave diuretic and blood restoring properties.
56. Shoathahar Loha-

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Oomposition (vide prescription No. 56).
Dose- 1 to 4 pills to be taken three times a day after food (Pilla of 6 grains each).
Ther. use-Tonic, hematinic and antacid. Valuable in dropey due to anaemia, also useful in sorofula, Bright's disease, and heart affections.

A patieut with anaemic dropsy as the result of ankylostomiasia was put on these pills for a number of days but there was no improvement in his condition.

## 57. Trayodashang Gugulu-

Composition (vide preseription No. 57).
Dose-1 to 4 pills of 6 grains eaoh.
Ther use-Demulcent, diuretic, and anti-spasmodic; useful in inoontinence of arine, cystitis, asthma, and all spasmodio affections.

This compound bdellium preparation was administeredsto a few cases of asthma without benefit.
58. Yogaraja Gugulu-

- Already reported on in the preliminary report under single drags; GaggulaBalsamodendron Mukul.

Composition (vide prescription No. 58).
59. Agnithundi Rasa-

Oomposition (vide prescription No. 59).
Dose-1 to 4 pills of 1 grain each with milk after meale.
Ther. use- Bitter, stomachio, and tonio; usuful in dyspepsia, indigestion and colio.
These pills were given in a few cases of dyspepsis and found to be useful in giving alight relief to the symptoms.
60. Agni Rasa-

Composition (vide presoription No. 60).
Dose-80 to 60 grains.
Ther. uses-Said to be a specifio for bronchitis and useful in bronohial catarrh pneumonia and croup.

This powder was administered to oases of ohronic bronohitis withont any benefit.
61. Agnisooti Rasa-

Composition (vide presoription No. 61).
Ther. use-Gastirio atimulant, useful in dyspepsia, diarrhoes and dysentery.
Dose--2 to 8 pills of 1 grain eaoh.
These pills weregiven in about a dozen asses of dysentery and were found generally usefal and to give relief in that disease.
62. Arogyavardhini Pills-:

Composition (vide presoription No. 62).
Dose-1 to 4 pills three times a day with milk.
. This preparation is used as an alterative in congestion of the liver, hepatitis, dyspepsia and anmmis. It is also said to be a spacific for dropsy. A patient with ohronic gastritis was was put on it, derived much benefit.
63. Agnikumara Rasa-

- Composition (vide prescription No. 63).

Ther. use-Sedative, stomachio, antacid, useful in oholera, oolio, diarrhcea, indigestion, tympanitis.

Dose -1 to 2 pills twioe a day.
This was administered to oases of lienteric diarrhcea without any beneficial result.
64. Brihat Chandrodaya Makardhwaja-

Composition (vide prespription No. 64).
Ther. use-Tonic, stimulant. Said to be highly efficacions in sexual debility.
Dose-1 to 4 pills to be taken twice a day with milk.
This is an mild nervine tonic and has to be continued for five or siz weeks before the good effects are seen.

This tonio was administered to a patient for general debility. He took it only for 3 days. The result could not therefore be asoertained.
65. Devakusumadi Rasa-

Proparation-1 grain pill.
Composition (vide presoription No. 65).
Dose-1 to 4 pills three times a day.
Ther, use-In syphilitic affsotions.
These pills were given to cases of seoondary syphilis. The patients derived marked benefit:from them.

## 66. Ekangaveera Rasa-

Composition (vide presoription No. 66).
Ther. use-Tonio, alterative, usaful in hemiplegia, paraplezia, paralysis, aynovitis of the knee joint, eoiatioa.

Dose-1 to 4 pills of $\dot{2}$ grains each, to be taken trice a day with rasnadi quath.
This drug was alministered to a patient with hemiplegia; the rosult was negative on. he other hand, the pilla irritated the intestines and produod a certain amount of enteritic.

## 67. Jatiphaladhi Gutika-

Composition (vide preecription No. 67).
Preparation-1 grain pille.
Dose-1 to 4 pille three times a day.
Ther. nso-Astringent, anodyne and diaphoretia
This was tried in eeveral cases of acute and obronio dywentery and diarrhoes with benefit.
68. Jalodarara Rasa-

Composition (vide prescription No. 68).
Preparation-1 grain pille.
Dose-1 to 3 pills with milk.
Ther. use-Cathartio.
Each pill contains $1 / 3 \mathrm{gr}$. of croton seed with other ingredients. It is a powerful cathartic; naefal in asoites and dropay. It was administered to a case of ascitea and produced copions stools, with irritation of the bowels.
69. KKrımimudgara Rasa-

- Composition (vide prescription No. 69).

Preparation- 5 grains pills.

- Doser-1 to 4 pille followed by a parge.

Ther. uso-Antheimintic.
These pills were tried in eases of ankylostomam and ascaris lambriooides bat the resalt was disappointing.
70. Kanakasundara Rasa-

Composition (vide presoription No. 70).
Preparation-2 grains pills.
Dose.-1 to 3 pills three times a day.
Ther. use-Neuralgia, colic, asthma, whooping oough, sore-tbroat, etc.
These pills were administered to a few oases of hemi-oranis and asthma. In the latter disease, they did some good, but in hemi-crania no relief was obtained.
71. Lakshmi vilas Rasa-

Oomposition (vide presoription No. 71),
Preparation-2 grains pills.
Dose-1 to 4 pills twice a day.
Their. use-In sexual debility, mania, phthisis, asthma and general debility.
This was given to a few out cases in sexual and general debility without any beneft.
72. Mriganka Rasa-

Composition (vide presoription No. 72).
Preparation-1 grain pill.
Dose-1 to 4 pills with milk twioe a day after food.
Ther. ose-Largely used in cases of phthisis.
This was administered to a case of incipient pulmonary tuberonlosis; the patient was relieved of the complaint by its use for five weeks.
73. Maha Mrithyangaya Loha-

- Composition (vide presoription No. 78).

Dose- 1 to 4 pills of 2 grains each twice a day after meals.
Ther. use-Alterative, tonic and diaphoretio, useful in malaria with enlarged apleen.
Mild cases of malaria derived benefit from its ase. In malignant eases the result was unsatisfactory.
74. Maha Lakshmivilasa Rasa-.

Composition (vide prescription No. 74).
Preparation-1 grain pill.
Dose- 1 to 4 pills three times a day with milk.
Ther. nae-Tonic, alterative and haematinic.
Used in general debility and anaemia.
This was administered to a case of general debility, but no marked improvement wac noticed.
75. Maha Jvarankusa Rasa-

Composition (vide prescription No. 75).
Ther. use-Useful to check attacks of malarial fever.
Dose-1 to 4 pilla to be taken every three hoars as direoted by the physician,
This compound drag was found to be useful in cases of malarial fever but the action wae-

## 76. Mrithyanjaya Rasa-

Composition (vide presoription No. 76).
Preparstion-1 grain pill.
Dose-1 to 3 pille thrioe a day.
Ther. noe-Useful in nasal oatarrh, tonvilitis, apute inflammation of air passages, erysipelas, and painfal nearalgic affections.

This was tried in a few cases of influenza with bronaho-pnenmonia; mild oases were oured. by it, but in severe cases, the rass did not do any good.
77. Nithyananda Rasa-

Composition (vide prescription No. 77).
Preparation--2 grains pille.
Dose-1 to 4 pille to be taken three times a day.
Ther. use-In elephantiasis and filarial fever.
These pills were tried in 8 cases of elephantiasis and lymphangitis with periodical attaots of fever. In one oese, it stopped the periodioal attacks of fever but the other patients did not derive any benefit. In one case, even its prolonged use has not done any good to the patient, who is atill troubled with lymphangitis and fever every third of fourth week.

## 78. Naracha Rảsa-

Composition (vide prescription No. 78).
Ther. nse-In obstinate constipation, ascites, oirrhosis of the liver and dropsy.
Dose-1 to 3 pills of 1 grain each.
Esch pill contains one-third grain of purified oroton seeds.
This is a very powerfol purgative and was administered to asses of asoites. It produced such violent purgation with irritation of bowels, that further trial with it had to be given up.
79. Narayana Juarankuad-

Composition (vide prescription No. 79).
Preparation-1 grain pill.
Dose--1 to 4 pille three times a day.
Ther. nse-Malaria, anæmia, diabetes, psoriasis, eto.

- These pills were largely nsed in the out-patients ( 59 cases) and were found to be usefal in oheoking the attaoks of malarial fever.

80. Pancha-dakra Rasa (in 1 grain pills) -

Oomposition (vide prescription No. 80).
Dose-1 to 4 pills every three hours.
Ther. use-Antipyretio, diaphoretio, anodyne. Specially useful in fevers, and all local and acute inflammations, and painful neuralgic affections.

These pills were administered to a oase of painful neuralgis. The result was unfarourable.

## 81. Ramban Rasa-

Preparation-1 grain pill.
Composition (vide preeaription No. 81).
Dose-1 to 4 pills three times a day after meals.
Ther nee-Tonic and anti-malarial. Malaria and ohronic skin disenses, ohromiochermatiem, sorofula and asthma.

This preparation was administered to oases of asthma and rheumatian and was fairly beneficial in giving relief to the patients in those diseases.
82. Shwasakutara Rasa-

Composition (vide presoription No. 82).
Preparation-1 grain pill.
Dose- 1 to 4 pille three times a day.
Ther. nse-Fevers, acote inflammations such as pneamonia, erysipeles; said to be vory effioacious in asthma.

This was adminiatered to several cases of asthma and was fond useful in giving rporary relief to the pationts.
83. Sarsaanga Sundara Rasa-

Oomposition (vide presoription No. 83).
Preparation-3 grains pills.
Dose-1 to 4 pille.
Ther. use-Alterative and sedative; useful in phthisis, asthma and ,general debility.

This was tried in a few cases of taberoular phthisis and asthma; the resalt being negative.

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84. 8mriticagare Bapa-

Composition (vide preseription No. 84).
Dose-1 to 4 pills twine a day of 1 grain pill anoh.
Ther. nee-Ia epilepay, mania and weeknees of memory.
These pills are being administered with Brabmigritha in a few oave of epilopay to see Whether they will aid the action of the latter or that disease.

## 85. Sharka Rasa-

Composition (vide presoription No. 85).
Ther. nse-Sedative and stomaohio, neeful in indigestion, inteatinal oolio and fatalence.

Dose-5 to 20 grains.
This preparation was administered to some oases of gastritis and intestinal colio and found to give relief to auch oases.
86. Tribhuoan Keerthi Rasa-

Composition (vide presoription No. 86).
Preparation-1 grain pill.
Dose-2 to 6 pills every two hours until fever subeides.
Ther, use-In high fever, acute inflammation snoh at pneamonia, oraptive forors and tonsilitis.

It was administered to a few casen of influenza; in mild cases there was deoided beneft bat in very acate oases, the pilla did not do any good.

- 87. Trailokia Chinthamani Rasa-

Composition (vide presaription No. 87).
Preparation-1 grain pill.
Dose-1 to 3 pills three times as day.
Ther. nse-In general debility, conyh, phthisis and sexual debility.
This was administered to two cases of taberoular phthisis without the patient deriving any benefit.
88. .Vatari Rasa-

Preparation-2 grains pills.
Composition (vide presoription No. 88).
Dose-1 to 4 pills.
Ther. use-Paraplegia, hemiplegia, eoiatica and musoular rheumatiom.
It was administered to a case of lumbago and the patient was completely relieved a!ter nasing the medioine for ten days.
89. Vadvanal Rasa-

Composition (vide prescription No. ${ }^{\text {82 }}$ ).
Preparation- 5 grains tablets.
Dose- 1 to 4 tablets three times a day.
Ther. ase-Removal of hyper-acidity, indigestion and dyspepsia. It is atomaohio, antacid and carminative.

A patient with chronio gastritis was pat on these tablets for about a month. He wae free from the complaint at the end of four weeks.
90. Vatharakthanthaka Rasa-

Composition (vide presoription No. 90) 4
Preparation-2 grains pills.
Dose-1 to 4 pills twice a day.
Ther. nee-Hemiplegia, paraplegia, facial paralysis, and rhenmatism.
It was given to a case of hemiplegia in an old man with considerable beneft.

## 91. Vasanta Kusumakar Rasti:-

Oomposition-vide prescription No. ${ }^{\circ}{ }^{\circ}$.
Ther. nse-Useful in diabetes insipidas and other arinary affeotiona, aloo in sexual debility, phthisis, asthma and general weakness.
-Dose- 1 to 4 pills of $\mathbf{r}$ grain each; three times a day with milk.
From the nature of the composition of this rasa, it can be easily inforred that this is a powerfal nerve tonio: It is need by the well-to-do in sexnal and general debility. I have prosoribed this medicine to soveral patients sufforing from nervons debility and diabetes mellitus. Diabetio patients were considerably benefited by ite use. I have also found it to be a eatisfaco tory tonio for relieving general and nervous debility.
92. Maha yogaraja Gugulu (1 grain pill) -

Composition-vide prescription No. 92.
Dose-i to 4 pills three times a day.
Ther. nse-Alterative tonio, useful in paraplegia, hemiplegia, aoiatioa and other nervous affeotions. Aso in sorofuls.

These pills mere given to a case of hemiplegia for a considerable time without benefit. :93. Chathurmuka Rasa--.

Composition-vide presoription No. 93.
Preparation-1 grain pill.
Dose-1 to 4 pilla to be taken twiee a day after food.
Ther. use-Said to be useful in phthisis, asthma, epilepsy and other nervous diseases.".
This was administered to a case of chronic bronohitis and to one of tuberoular phthisis-

94. Mahatiklha Ghritham-

Composition—vide presoription No. 94
Dose- $\frac{-7}{3}$ to 2 tolas.
Ther. use-Bitter tonio, alterative ; reoommended in skin diseases.
This was given to a few cases of ohronic skin diseases in the out-patient department and was found to be beneficial.

## 95. Pranadhi Gutika-

Composition--vide presoription No. 95.
Dose-1 to 4 pilla to be taken twise a day with water.
Ther. uee-Larative, alterative; useful in dyspepsia and conetipation.
These pills were tried in a few cases of atonic dyspepsia and were generally found to. celieve the symptoms and to inorease the appetite.

## 96. Rasna Guggulu-

- Composition-vide prescription No. 96.

Dose-1 to 4 pills to be taken three times a day.
Ther. use--Alterative and tonic. Useful in soiatioa, paraplegia, hemiplegia and other mervous affections.

A hemiplegio patient who was put on these pills derived no benefit from them.
97. Kanchanar Guggulu-

Composition--vide presoription No. 97.
Ther. use-Alterative and tonic. Useful in scrofula, fistula, leprosy, ulcers, eto.
This was administered to a case of sorofula ; the result could not be ascertained as . the patient ceased attending soon after its administration.
98. Chandrodaya No. 1 (Suvarna Ghatit Makhardhwaj)-

Composition-vide presọription No. 98.
Ther. use--Useful in sexual debility and nervous diseases.
Dose-2 to 6 grains to be taken twioe a day with honey, followed by milk.
This costly preparation was given to a case of locomotor ataxy for nearly five weeks. Not the slightest improvement was noticed in the patient's condition.

Thr following compoind preparations have alegady been beportzd on and included in the Prbliminaty Report.

1. Karpooradhi Ohurnam.
2. Talisyadhi Churnam.
3. Worm Powder.
4. Trivrit Ohurnam.
5. Anandha Bhairati Pills.
6. Dadhumashtaka Charnam.

7: Leghu Sudarsana Cburnam.
8. Brihat Sudarsana Charnam.
9. Panohathikthaka Panakam.
10. Zoofa.
11. Katajapanithum.
12. Bhaskara Lavanam.
13. Legha-Sanka Dravkam.
14. Ithriphat.
15. Jewarish-a-kamoon.
16. Siddha Jasmam.
17. Purnaohandrodayam.
18. Narayana Thailam.
19. Agnithundi Pill.
20. Speciflo Powder.

All these compound preparations have been given further trial and I have nothing more to say about their value than what I have etatod in my preliminary report.

## Inder of compound druge.

| Bering number and name of the drug. | Serinal number and name of the drag. |
| :---: | :---: |
| 1. Abbrak Basmam. | 82. Kushmande Resayanam. |
| 2. Coral Basmam. | 83. Shrirag. |
| 3. Mukti Basmam. | 84. Abhasdhi Quath. |
| 4. Makshisa Baomam. | 35. Damamoola |
| 5. Raupya Baama | 36. Gadooohyadhi Quath. |
| 6. Tamra Basm | 87. Drakshae |
| 7. Annabedhi Sindhar | 38. Kutajaarishta. |
| 7.A. Ashta Chuina | 39. Lohe A eavis |
| 8. Avipattikar Churnam. | 40. Adithyapaka 2'b |
| 9. Arkamoola Oharnam. | 41. Aswaghandha B |
| 10. Chithrakamuladhi Churnam. | Lakshadhi Thsilam. |
| 11. Componnd Congh Powder. | 43. Dadraghna Ointmènt. <br> 44. Ksheerabala Oil. |
| 12. Compound Constipation Powder. | 45. Compound Oil of Vitex negundno. |
| 13. Eladi Churnam. | 46. Panchavalkaladi Thailam. |
| 14. Gangadhara Churnam. | 47. Vidanga Thaila. |
| 15. Kalyanaksharam. | 48. Vishagarbha Thaila. |
| 16. Lavangadhi Oharnam. | 49. Abheyadi Modek. |
| 17. Musalyadhi Churnam. | 50. Amrithe Gugula. |
| 18. Powder for Inhalation in | 51. Chandraprabha Gutika. |
| Influenza. | 52. Dhanwantari |
| 19. Rohitaka Ohurnam. | 53. Goksharadhi Gugula. |
| 20. Swayamagni. | 54. Mandura Loha. |
| 21. Swadishta Virechens. | 55. Punarnava Manduram. |
| 22. Saraswathi Churnam. | 56. Shoathahar Loha. |
| 23. Amritha Bhalataki. | 57. Trayodashang Gugulu. |
| 24. Amritha Prasa Ghritha | 58. Yogaraja Gugulu. |
| 25, Abhayamaliki. | 59. Agnithundi Rase. |
| 26. Aazairaisah. | 60. Agni Rass. |
| 27. Brahmi Ghritha. | 61. Agnisooti Rasa |
| 28. Chyavanaprash. | 62. Arogyavardhini Pills. |
| 29. Dasamoola Rasayanam. | 63. Agnikumara Kasa. |
| 30. Lashunadhi Ghritham. | 64. Brihat Chandrodaya Ma- |
| 31. Majoonai Khuvathiaibah or manly power. | kardhwaja. <br> 65. Devakusumadi Rasa. |

## Berial number and name of the drus.

1. Abbrak Basmam.
2. Coral Basmam.
3. Mukti Baemam.

Makshisa Baomam
5. Raupya Baamam.
. Tamra Basmam.
7. Annabedhi Sindhuram.

Ashta Churnam
9. Artatikola Ohnemam
10. Chithrakamuladhi Churnam.
cound Pow der

Compound
13. Eladi Churnam.
14. Gangadhara Cburnam.
15. Kalyanaksharam.
16. Lavangadhi Ohurnam
17. Musalyedhi Churnam.
18. Powder for Inhalation in Influenza.
19. Rohitaka Ohnrnam.
20. Bwayamagni.
21. Swadishta Virechens.
23. Amith Bhari

Amritha Bhalataki
Amritha Prasa Ghritha
25. Abhayamaliki
27. Brahmi Ghritha.
28. Chyavanaprash.
29. Dasamoola Rasayanam
31. Majoonai Khuvathiaibah or manly power.

```
Sericil mamber and name of the drag.
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82. Kushmande Rasayanam.
. Bbrirag.
83. Abhasdhi Quath.
. Danamoola Quath
84. Gadooohyadhi Quath.
85. Drakhasava.
86. Lohe A saris
87. Adithyapaka I'bails.
88. Aswaghandhe

Bala
42 Chakra-mardha Thaila
43. Dadraghna Ointment.

Kshearabala Oil
46. Penchavalkailadi Thailam.
47. Vidanga Thaila.
48. Vishagarbha Thaila.
49. Abheyadi Modas
51. Chendraprabha Gutika.
52. Dhanwantari Pills.
5. Goksharadhi Gagula
55. Punarnava Manduram.
56. Shoathahar Loha.
. Irayodasbang Gugulu.
60. Agni Rasa.
61. Agnisooti Rasa

Arogavardini Pile
63. Agnikumara Kasa.
65. Devakusumadi Rask.

## Barisl namber and mene of the dr ug.

66. Etrangaveera Hase
67. Jatiphaladhi Gutika.
68. Jelodarara Reca
69. Krimimudgara Rasa.
70. Kanakmandarm Raen.
71. Lakehmi Vilas Ram.
72. Mriganka Kaca.
73. Maha Mrithyanjaya Loha.
74. Mabs Lakebmivilaes Rase.
75. Maha Jwarantusa.
76. Mrithyanjaya Rues.
77. Nithyananda Rase.
78. Naracha Rama,
79. Narayana Jwarankua.
80. Pancha-vakra Raes.
81. Ramban Rasa
82. Shwasakutara Raca.
83. Sarwenga Sundera Rees.

84 Smritieagara Rasa.
85. Shanka Raen.
86. Tribhavan Keeriti Rama
87. Trailokia Chinthamant Rasa.
88. Vatari Raba.
89. Vadvanal Rasa
90. Vatharakthanthaka Rase.
91. Vasanta Kusumakar Rasa.
92. Maha Yogaraja Gagalu.
98. Chathormuks Rasa.
94. Mahatikthe Ghritham.
95. Pranadhi Gutika.
96. Raans Gugulu.
97. Kanchanar Gugulu.
98. Chandrodaya No.

1
(Suvarna Ghatit Makhardhwaj).

## APPENDIX No. 3. Classification of drugs based on their properties.

Antrimgenti.
Aconitum heterophyllam.
Aegle marmelos.
Holarrhena anti-dysenterion-Kutaja and its compound preparationa as Kutajapanitham, Kutajarishta.

Bombax malabarioum.
Wood-fordia floribunda.
Agnisooti Rasa (vide prescription No. 61).
Dadumath ${ }^{\text {In }}$ Churnam (vide presoription No. 18, preliminary report).
Gangadhara Churnam (vide presoription No. 14 A \& B).
Antintiphilitic.
Speciifo oil for syphilis (vide presoription No. 34, preliminary report).
Poorna Chandrodayam (vide presoription No. 33, preliminary report).
Devakusumadi Rasa (vide prescription No. 65).

## Anti-dinbetice.

Abbrak Basmam (vide prescription No. 1) Talc Caloined 100 and 1,000 timea,
Lodoioes seyohallarum.
Vasanthe Kusumakaram (vide presoription No. 91).
Grdumal.
Cassia aurioulata.
Eugenis Jambolans.
Silajit.

## Anthelmintios.

Butes frondosa.
Chempullanhi (Colyoopteres floribunda ?)
Kirmani (Artemisia maritima).
Krimimudgara Rasa (vide presoription No. 69).
Cleome viscosa.
Chenopodium ambrosioides.
Vernonia Anthelmintica.

## Altrbativen.

Nithyanandhe Rasa (vide presoription No. 77).
Hydrocotyle Asiatica.
Amoora Rohithaks.
Calotropis Gigantea.
Celastrus Paniculata.
Gynooordia Odorata.
Pongamia Glabra.
Eolipta Prostrata.
Hemidesmus Indicus.
Mriganka Vatika (vide presoription No. 72).
Withania Somnifera.
Sarsawathi Churnam (vide prescription No. 22);
Tinospora Cordifolia.
Surwanga Sundara Rasa (vide preaription No. 83),
Trailokye Cbinthamani Rass (vide presoription No. 87).
Larmivilasa Rasa (vide prescription No. 71).
MahaLaxmivilasa Raga (vide presoription No. 74).

## Anti-nedealaich

Maha Narayana Thailam.
Vatari Rasa (vide prescription No. 88).
Vatarakthanthaka thasa (vide presoription No. 90).
Siddha Baala Thailam.
Kanaka Sundara Rasa (vide presoription No. 70).

## ANTI-Bhidumtic.

Confeotio Semioarpus Anacardium (vide presoription No. 8, preliminary report)
Kabearabala Oil (vide presoription No. 44)
Vatari Rasa (vide presoription No. 85).
Vatarakthanthaka Rasa (vide presoription No. 90)

## Aphenemp.

Aarogya Vardhini (vide preeaription No. 62). :Swadishta Virechna Churnsm (vide preeaription No. 21). Ithriphal (vide premaription No. 28, preliminary report).

## AETI-FYRBTIO AND DIAPBORETIOR.

Sudarsans Charnam (vide preeoription Noe. 19 and 23, preliminary report). Decootion Dasamula (vide presoription No. 85).
Panchathikthaka Panakam (vide preeoription No. 26, preliminary report).

- Ocimom asnctum.

Piarorrhiza kurroa.
Vernonia Cinera.
Dremis extenga.
Mrithyanjaya Rasa (vide presoription No. 76).
Maha Mrithyanjaya Loha (vide presoription No. 78).
Alstonia soholaris.

- Gadnchyadhi quath (vide presoription No. 36).

Viola odorata.

- Coscinum fenestratum.

Berberis aristata.
Azadirachta Indica.
Aconitam feror.
Anti-priodica (Antr-Malablal).

- Ocimum banotum.

Piororrhiza kurroa,

- Azadiraohta indica:

Vernodia cinera.
Aconitom heterophyllum.
Tinospora cordifolia.
Alstonis echolaris.
-Gadichyedhi quath (vide presoription No, 36).
Drmia extensa.
Pantahathikthaka panakam (vide prescription No. 26, preliminary report).
Viola odorata.
Berberis aristata.

- Coscinam fenestratum.

Tonics and Aphrodisiag.
Lakhshmivilasa rass (vide presoription No. 71).
Aswaghandhadi ohurnam (vide prescription No. 71, preliminary report).
Aazairaisah or strength giver (vide prescription No. 26).
Majoonai khwathaibah (vide prescription No. 81).
Maha lakhshimivilase rasa (vide presoription No. 74).
Amritha-prass (vide presoription No. 24).
Kushmande (vide prescription No. 32).
Chyavanaprash (vide presoription No. 28.)
Brihat chandrodaya makhardhwaja (vide presoription No: 64).
Vasanthe kusumakara rass (vide prescription No. 91).
Bifter Toniog.
Melia azadirachta.
Tinospora cordifolia.
Vanda roxburghi.
.Piororrhiza karroa.

## Blood Tonics of Higmaturios.

Terminalia arajuna.
Loha basmam, Calcined iron.
Makshika basmam, Calcined Iron Pyrites.
Shoathar Loha (vide prescription No. 56).
Mundura Loha (vide prescription No. 54).
-Chathurmukha rasa (vide presoription No. 93).
Kalpam (vide prescription No. 36, preliminary report).
.Kushmanda rasayanam (vide prescription No. 32).
Mriganka vatika (vide preacription No. 72).
Punarnava mandura (vide prescription No. 55).
Loha Asava (vide prescription No. 39).

## Carminatives.

Acorus calamne
Agnithundi pills--(vide presoription No. 59).
Chebulic myrabolans.
Ptychotis ajowan.
Ashta churnam (vide presoription No.7-A).
Jawarish-a-kamoon (vide presoription No. 30, preliminary report).

## Druretics.

Bor ${ }^{\text {Bavia diffusa. }}$
Tribulus terrestris.
Sanka Dravakam Leghu-(vide presoription No. 25 preliminary report).
Urginea indica.

## Demolcrints.

Tribulus Terrestris.

## Expbotoranta.

Anacyolus pyrethrum.
Bambusa Arundinacem.
Glyoyrrhiza Glabra.
Justioia Adhathoda.
Agni rasa (vide prescription No. 60).
Mriganka rasa (vide presoription No. 72).
Sarwanga Sundara Rasa (vide presoription No. 83).
Compound powder of camphor (vide prescription No. 13, preliminary report).
Calcined coral.
Sitopaladhi churnam (vide presoription No. 24, preliminary report).
Aswaghandhadhi Bala Lakshadhi Thailam (vide presoription No. 41).
Siddha Basmam (vide presoription No. 82, preliminary report).
Trailokya Ohinthamani Rasa (vide prescription No. 87).
Zoofa (vide presorption No. 27, preliminary report).

## Nrbvine Tonics.

Caloined Iron Pyrites.
Silajit (A bituminous exudation from the rooks in hot weather).
Yogaraj Gugulu (vide presoription No. 58).
Maha yogaraj Gagalu (vide prescription No. 92).
Aswaghandhathi Churnam (vide presoription No. $1_{j}$ preliminary report).
Saraswathi Churnam (vide presoription No. 22).
Brahmi Ghritham (vide presoription No. 27).
Amrithaprasa Ghritham (vide presoription No. 2t).
Kabeerabala Oil (vide presoription No. 44).
Kushmanda Rasayanam (vide presoription No. 32).
Ohithrakamuladhi Chornam (vide presoription No. 10).
Brassica campestris.
Lashunadhi Ghritham (vide presoription No. 30).
Abhayamalaki (vide prescription No. 25).

## Purantivzs.

Areea cateohu.
Chebalic myrabolans.
Ipomea turpethum.
Ipomea turpethum and its compound powder (vide prescription No. 15, preliminary report).
Ithriphal (vide presoription No. 28, preliminary report).
Jalodarari rasa (vide preseription No. 68).
Naracha rasa (vide presaription No. 78).
Pulvis rhei co. (Unani) (vide prescription No. 12).
Abhyadhi modak (vide presaription No. 49).

## Parabitioldis (kxtmenal)

Adhithyapaka Thailaḿ (vide presoription No. 40).
Chakramardha Thailam (vide prescription No. 42).
.Panohavalkaladi Thailam.

## Sromacite and Drazing Tomion

Acorns calamus.
Chebalio myrabolans.
Itbriphal (vide presoription No. 28, preliminary report).
Jawarish-a-kamoon (vide prescription No. 80, proliminary report).
Kalpam (vide presoription No. 36, pyeliminary report).
Kalyanaksharam (vide preacription No. 16).
Confection-phyllanthas emblica (vide prescription No. 29).
Leghn sanka dravakam (vide presoription No. 25, preliminary report)-
Ashta churnam (vide preeoription No. 7-A).
Dhanwantari pille (vide prescription No. 62).
Bhashkara lavanam (vide presoription No. 24)

APPENDIX No. 4.
Summary of the notes on the medieines investigated.


II-11

Summary of the noten on the medicine inventigated-conk.


Summary of the notes on theimedicines investigated-acont.


Summary of the notes on the medioines inveatigated-rint.

| umber and name of the druge. | Where obtained. | Dismaen exed to. | Notee namber $0 \times$ draga. | $\begin{gathered} \text { Total } \\ \text { manion } \\ \text { of } \\ \text { coeve } \end{gathered}$ | Bemarle cen meolit. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Rasas. |  |  |  |  |  |
| 69. Agnithundi nee .. .* | $\begin{aligned} & \text { Zande } \\ & \text { Pharmeoy, } \\ & \text { Bombay. } \end{aligned}$ | Dyspopeis .. .. . ${ }^{\text {c- }}$ | 69 | ¢ | Olightly bandedal. |
| 60. Agni rasa ... $\quad$ - 0 - | Dor | Chronic bronohitis . .. | 60 | 6 | Not beneficin. |
| 61. Agrisoot rnge - .* | Do. | A.ato and ohronio dyeentery and diarrion. | $61$ | 18 | Unefal. |
| 62. Aarogya vardhani ... .. | Do. | Dyspepeia .: .. .. | 69 | 16 | Do. |
| 68. Agnitummars reco .. ${ }^{\text {a }}$ | Do. | Diarrhoman $\because \quad .$. | 68 | 6 | Do. |
| 64. Brihat Chandrodays Makardhwej. | Do. | General debility .. ${ }^{\text {a }}$ | 64 | 1 | Blow in ection. |
| 65. Devakushumadi rasa .. | Do. | Constitational mphilis .. | 65 | - | Unotul. |
| 66. Ekangavera rase. .. .. | $\mathrm{DO}_{0}$. | Hemiplegia | 66 | 18 | Not vepful. |
| 67. Jatiphaladhi gutika \& .. | Do. | Dysentery (aonte and ohronio. | 62. | 19 | Uraful. |
| 68. Jalodarari rasa ${ }^{\text {a }}$ - ${ }^{\text {a }}$ | Do. | Asoites and dropay .. | 68 | 68 | Fery violent eathartio. |
| 69. Krimimidgara ram... .. | Do. | Anoaria lombrioaiden .. | 69 | \% | Not moaful in hook-worm noted at a sind anthelmintio in round worn. |
| 70. Kanaka sundara rasa , | Do. | Aothona and homiorania .- | 70 | 7 |  |
| 71. Laxmivilasa rasa . . | Do. | Sexunal and general debility. | 71 | 8 | No beneft. |
| 72. Mriganks vatiks ${ }^{\text {7 }}$ | Do. | Pulmonary tuberculonie .. | 79 | 1 | Benetioial. |
| 78. Maha Mrithyanjaya loha | Do. | Malarial fovers .. -.. | 78 | 18 | Uneful. |
| 74. Mahs Laxmivileas rasa -* | Do. | General debility .. .. | 74 | 1 | No marlad beacelt. |
| 75. Mahs Jwarankuse rasa | Do. | Malarial fovers .. .. | 78 | 4 | Uretul. |
| 76. Mrithyunjaya raas .. .- | Do. | Influensa $\because \quad \cdots$ | 76 | 7 | Usefol in mild amace. |
| 7\% Nithyanandha rass .. ${ }^{\text {\% }}$ | Do. | Iymphangitia .. .. | 77 | 7 | Gave roliof to tow caces. |
| 78. Naraoha raca .. .. | Do. | Aboites .. .. .. | 78 | 18 | Aotod as a porgatlue. |
| 79. Narayana Jwarankusa | Do. | Melarial fevers .. .. | 79 | 69 | Usefal. |
| 80. Panohavakra rasa .. | Do. | Cephalalgia $\quad \cdots \quad \because$ | 80 | 1 | Gave rolief. |
| 81. Ramban raga .. .. | Do. | Asthma and ohronio rheumatisu. | 81 | 12 | Beneloial. |
| 82. Shwrakkutara raga .. | Do. | Asthme .. .. .. | 88 | 16 | Gave reliof. |
| 88. Sarwanga sandara rasa .. | Do. | Asthma and pulmonary taberaulosin. | 88 | 6. | No benealt. |
| 84. Emriti aggara rasa .. .. | Do. | Epileper $\quad$ - $\quad$ - $\quad$ - | 84 | 4 | Roculte amited. |
| 85. Shankha vati .. | Do. | Gactritis and inteatinal | 85 | 6 | Gave reliof. |
| 86. Trilhuvans keerti rasa | Do. | Infuenza .. .. .. | 86 | B | Usoful in mild asces. |
| 87. Trailokya ohintamani | Do. | Pulmonary tuberouloais .. | 87 | 8 | No benefit. |
| 88. Vatari raba -, | Do. | Lumbago .. .. .. | 88 | 1 | Useful in mida cam, |
| 89. Vedsvanal rase ... | Do. | Chronio gastritia .. .. | 80 | 1 | Oured. |
| 90. Vatarakthanthaka raca | Do. | Hemiplegia -. ${ }^{\text {- }}$ | 90 | 1 | Showed a aHght improvement. |
| 91. Vesantha kueumakara .. | Do. | Sexual debility and | 01 | 1 | Benofilaial. |
| 92. Yogaraja gugaloo (Maha) | Do. | Hemiplogia $\quad$ : | 92 | 1 | Fot unoful. |
| 98. Chathurmuka rasa .. . | Do. | Chronio bronohitis and tubercular phthicia. | 98 | 8 | Bonethoisal in ohronte bronohitia, not atefal in tabervalar phtibinde. |
|  |  | Ohronio elkin diseases .. | 94 |  | Benefloial. - |
| 95. Pranadhi gutika .. .. | Do. | Atonio dyspepaia .. .. | 95 | 6 | Useful. |
| 96. Rasna gugula $\quad \cdots \quad . \cdot$ | Do. | Hemiplogis $\quad$.. | 88 | 1 | ITo beneft, |
|  | Do. Do. | Borotula Looomotar atayy | 97 | 1 | Onfnown. No improvement at all. |
| ghatit makhardhwaj). | Do. | Looomotar atay :. .". | 88 | 1 | No improvement at ail. |

## APPENDIX No. 5.

## List of compound preparations collected and investigated with their composition.

## Beasmas.

1. Abhrak bhasmam-Caloined 100 times-

Dose-2 to $\hat{0}$ grains to be taken twice with honey.
Ther. use-Useful in phthiais, and debility of old age ; gives atrength to the body-
2. Coral bhasmam-

Dose-3 to 12 grains to be taken twice a day after food.
Ther. use--Useful in spermatorrhcor, cough, phthisis, eto.
3. Mukta bhasmam-

Dose-2 to $\mathbf{6}^{\circ}$ grains to be taken twiee a day with honey.
Ther. use-Useful in general debility, cough, phthisis and asthma.
4. Makshika bhasmam-(Caloined iron pyrites).
I)ose-2 to 12 grains to be taken twice a day with honey after meals.

Ther. use -Usetul in anæmia, chlorosis, heart affactions, sorofula and general debility-
5. Raupya bhasmam-

Dose-2 to 6 grains to be taken twice a day with ghee or honey.
Ther. use-Useful in general debility.
6. Tamra bhasmam-

Tose-1 to 2 grains to bei taken twice a day with honey or ghee.
Ther, ase-Useful in cough and asthma.
7. Annabedhi Sinduram-

Dose-1 to 2 grains to be taken twice a day with honey.
Ther. use-Hæmatinic ; ueeful in anæmia.
Churnams.
7. (a) Ashta churnam-

8. Avipattikara churnam-

The three acrids.
The three myroholans.
the tubers of Oyperus rotundus.
$\nabla$ it salt.
Embelia ribes.
Cardamomom seeds.
The leaves of cinnamomum tamala.
Take one part of the powder of each and to it add the powder lof oloves equal to the nited measure of the foregoing drugs, as also the powder of Convolvalus Turpethum, forty-four parts and sugar 66 parts.

Mix all these together.
Dose-20 to 40 grains to be taken three times a day before meals.
Ther. use-Purgative and oarminative ; useful in indigestion and constipation.
9. Arkamoola churnam-

Powdered bark of the root of Calotropis gigantea. I
Dose-3 to 10 grains in dysentery. Thirty to 60 graina as an emetio.
Ther. use-Intentinal tonio, emetic; may be substitnted for Ipecaa.
10. Chithrakamulndhi churnam-

Ohief ingredionts are-

$$
\begin{array}{lll}
\text { Chithraka } & \text { Plambago zeylanioum. } \\
\text { Brahnix } & \text { Herpestis monniera. } \\
\text { Vaoha } & \therefore & \text { Aoorus oalamus. }
\end{array}
$$

Does - 10 to $\mathbf{3 0}$ grains to be tazen three times a day before meals.
Ther, un 3-Alterative, stimulant, and tonio ; aseful in epilepsy, mania and bysteria. II-12
11. Compound powder of Juaticia Adhatoda ( $U_{\text {Heni) - }}$


Put all the ahovementioned ingrediente in amall pot in the burning fire for come time so that the ingrediente may be completely burnt.

Dose-2 to 6 grains mized with honey.
Ther. use-In bronohial catarrh and bronobitis.
12. Compound conetipation. Pulo Rhei Co. (Unani)-
(Compound powder of Senna, Rhei, Silajit basmame, eto.)-


Take aome silajit in a ginadi and poar some lime juioe in it and then olose its mouth. After having done so, it is barnt in 50 cow dung eakes snd made into bhasmem. Take 8 tolae of bhasmam and mix with the powder of all the things noted above.

Dose- $\frac{t}{4}$ to $\$$ tols should be taken with cow's milk at bed time.
Ther. nee-In constipation and also for gonorrhoea and barning sensation in urine.
13. Eladi churnam-

The ingredients of Eladi charnam are-

and sugar equal to their united measure, that is 21 parts.
Mix all these together.
Dose-5 to 20 grains to be taken three times a day.
'I'her, use-Natritive, tonic and demalcent, useful in bronchial affeotions.
14. (a) Leghu Gangadhara churnam-

Thangamustheln $\quad$. Cyperus ratundus.
Kodisavithulu $\because \quad .$. Seeds of Holarrhena antidyeenterioa.
Tender fruits of mareda. . Aegle marmelos.
Bark of lodhre - .. Simplocos racemosa.
Buruga banka .. Gum of Bombax malabarionm.
Araypava ... Flowers of Woodfordis floribands.
All in equal parta-powder and mix.
Dose- 20 to 40 grains to be taken three times a day with whey.
Ther. ase-Astringent and tonic, useful in chronic diarrhoea, given tone to the intestines and iucreases digestive power.
(b) Dridha Gangadhara churnam-

Thungamusthelu. . Cyperus rotundus.
Ranukam .. Bark of Bignonia indica.
Ginger .. Zingiber officinale.
Araypnvu .. Wood fordia floribanda.
Eark of Lodbra Simplocos ragmosa.
Vettivera .. Andropofon maricatua

Tender fruits of maredu.
Buruga Banka.
Agarnsonti.
Korlisavithulu.
Mnmidipappu.
Athivasa.
Anthara Thanmara.

Aegle marmalos.
Bombax malabaricum.
Cissampelos Hernandifolia.
Seeds of Holarrhens antidysenterica.
Kernel of seeds of mangofera Indica.
Aconitam Heterophyllum.
Nymphæ shellata.

All in equal parts-powder and mix.
Dose- 20 to 40 graips to be taken three times a day with whey.
Ther. use-Astringent and tonic; aseful in chrunic diarrhces.
15. Kalyanakshavam -

Composition :-
Thrikadaga.
Induppu.
Vidaippa.
Karathúppus.
Thriphala.
Dhanthi.
Marking nut.
Chitramulam.
Sneyham
Gomathram. -
Surpi.
For making Ksharam.

Piper Nigrum, Zingiber effioinale and Piper longum.
Saindhava salt.
Vit salt
Black salt
The three myrabolans.
Baliospermum Montanum.
Semicarpus Anacardium.
Root of Plambago zeylanicum.
Oleum Reoini.
Cow's urine.
Ghee.

Take equal parts, grind in cow's urine, place the paste in a new pot, cover with a ohatty, and olose with-cloth dipped in olay; then heat it.

- Dose- $\frac{1}{2}$ to 1 drachum three times a day in ghee or castor oil before meals.

Ther. use-Constipation, piles; colic, gastric tronbles, as aites, anæmia, worms, asthma, eto.
16. Lavangadi churnam-

Cloves.
Dry Ginger.
Black pepper.
Fried borax.

Engenia carryophyllata.
Zingiberis offioinale.
Piper nigrum.

Take equal neasures of these, and macerate them in the deoootion of Achyranthes aspera and the roots of Plambago zeylanioa.

Form pills of 5 grains, each:
Dose - 1 to 4 pills to be taken three times a day.
Ther. use-Demalcent; usefal in bronohitis.
17. Musalyadi churna-

Chief ingredients are-
Moosali. - Hypoxis orchioides.
Gokshuraka.
Shalmali.
Vanari. -
Gadooohi-satta.
Tribulus terrestris.
Bombax malabarioum.
Muouna pruriens.
Dose-20 to 60 grains to be taken twice a day with milk.
Ther. use-Tonio, Nutritive; alterative and aphrodisiac, Useful in leucorrhoea, menstrual derangements due to general debility.
18. Inhalation powder for influensn-

Davadarum.
Nerinjal.
Vasambu.
Koshtam.
Gugulu.
Agallashandanam.
Parithi kottai.
Kuruva pattai.
Manji.
Kayam.
Manjal.
Molagu.
Mylpeely.
Sambrani.
Veppa leaves.
Mulli leaves.
Yerukam leaves.
Kadukkai tholi.
Kadukai leaves.
Nanmukha pullu.

Oedrus deodara.
Tribulus terrestris.
Aoorus calamus.
Aplotaxis auriculata
Bdellium.
Aquillaria agallooha.
Cotton seeds:
Oinnamomam Zeylanicomam
Nardostaohys Jatamansi.
Assafortida.
Carcuma longa.
Piper nigram.
Peacook's-feather with quills.
Benzoin.
Melia azadiraohta (leaves of)
Leaves of Solanum Indionm.
Calotropis gigantea (leaves of).
Chebulic myrabolans (rind). Do. (leaver of).
Oil of lemon grass (Variety).

One palam of each to be sun dried-auid pounded into powder, make wiake by rollirg the powder in oloth, dip the winks in ghee, light and jnhale the vapour through a paperoone twice a day 6 times through eaoh nostril.

Ther use-Inhalation for Influenza.

## 19. Rohitak Churnam-

Dose-20 to 60 grains to be taken three times a day with water.
Ther. ase-Alterative, astringent and tonio. Useful in hepatitio and enlargement of aplean.
20. 8ratyamagni-

Chief ingrediento are :-


Rub in the juice of Aloes Indica, ex poee it to the sun's beat for 8 dajg, after rabbing the mase each day in the juice; exporare to be done in an iron veasel.

Dose-3 to 7 grains to be taken twioe a day.
Ther. use- Useful in stomaoh-ache, indigeetion and dyspepsia.
21. Swodishta virechan churwam-

Chief-ingrediente are:-

Yasthimadbu.
Shatapushpi.
Markandi.
Gandhaka.
Sugar.

G̀lyoyrrhima Glabra.
Foenieninm, Vulgara.
Senas Indioa.
Bulphur soblimed.
Baocharum.

Dose, -60 to 120 grains to be taken at bed times.
Ther, use.-Pargative'and demalcent, useful in piles, conetipation.
22. Sarasuathi churnam-

A plotaria auriculatá.
Phyeali flezuosa.
Saindhava salt.
Ptychotis ajowan.
Cumin seeds.

The eeeds of nigella eativum.
The three acrids.
Cissampeles hernandifolis.
Pladera deonseata (Clitorse ternatea).

Take equal meagures of these and add the pulv of acorns calamus, equal to their united measure-macerate all these thrice in the juice of the Herpestris monniera and rednce topowder.

Dose-20 to 60 grains to be taken three times a day.
Ther use-Useful in insanity, enhances the understanding, intelligenee and memory ; naeful in hemiplegia, epilepsy, paralysis, and hoarseness of voice.

## Confectiona, Lrghyame and Gibithame.

## 23. Amritha Bhallataki-

Take rife marking nuts divided into balves, eight seers, boil them in thirty-two neere of water till the latter is reduced to one-fourth and strain. Again boil the nuts in aixtean seers of milk with the addition of four seers of clarified butter, till reduced to a thiok consintenoy Then add sugar two seers and set aside for seven daye when the preparation will be ready for nee.

Dose. $-\frac{1}{4}$ to 1 tola to be taken twice a day with milk.
Ther. usf-Alferative; stimulant and nervine tonic. Useful in leprosy, sorofule and. renereal diseases.
24. Amritha, Prasa Ghritham-


The paste of the roots of :-
Sida cordifolia . . The tabera of scirpus kysoor.
Wheat.
The three acrids:
Physalis flexuosa (Withania somnifera).
Oóriandex-eeeds.
Tinospora cordifolia.
Tribulus languinosus,
The sprouts of palmyra needs.
The three myrabolan.
Musk.
The seeds of Mucnna pruriens.
Meda (or Phy
Mahameda (or Ichnocarpus frutescens) (or Hemideemus Indious) :
Aplotaxis auriculata.
Jivaka (or Tinospora cordifolia).
Curooma zerambet
Rerberis asiatica.
Aglaia Roxharghiana.

Rubia Manjista.
Taberne montana coronaria.
Pinus Webbiana.
Cardomom seeds.
The bark of Cinnamomum tamala.
The fruits of ticus glomerats.
Two tolas of each of the above.
Boil all these together and atrain the liquid portion ont and dissolve 1 seer of sugar in it.
Dose- $\frac{1}{2}$ to 1 tola to be taken with hot milk.
Ther. use--General tonio, useful in phthisis, weakness, emaciation. It inoreases strength and enhances semen and sexual power.

## 25. Abhayamalaki-

Chief ingredients are:-

| Haritaki. |  | Chebulic Myrabolans. |
| :---: | :---: | :---: |
| Amalata. |  | Emblic myrabolans. - |
| Brahmi. |  | Herpestis monnjera. |
| Shankhapashpi. |  | Clitorea Ternatea. |
| Vidanga. |  | Embelia ribes. |
| Chandana. |  | Santalum alba. |
| Agara. |  | Aquilaria Agallooha. |
| Vacha. |  | Acorus calamus. |
| Dashamoola. |  | The ten roots. |

Dose- $\frac{1}{6}$ to 1 tola to be taken in the morning with milk.
Ther. ase-Useful in debility of old age and general debility.
26. Aasairaisah-
(Compound oonfection ot Bamboo Manna, rhei, eto).

1. Tabaeheer.
2. Musthaki.
3. Zafaram.
4. Jatamani.
5. Amela.
6. Pearls rabbed in rose water.
7. Kharoba.
8. Yakhudai mahlool.

8a. Busad mahlool.
9. Yeshub mahlool.
10. Posthai thrinj.
11. Bahmanai asphed.
12. Raval ohini.
13. Asarun.
14. Nagarmotha.
15. Agur.
16. Saudalka boora.
17. Lavangapathri.
18. Badarangai boye.
19. Darunaj-i-akarbi.
20. Ilatohi.
21. Zarishk.
22. Omber.
23. Honey-
24. Sugar.
25. Warkhai Roopa.
26. Warkhai sohna.
27. Ubarasham (thinly ent with scissors).

Silioious concretions of Bambusa ' $\frac{1}{3}$ tola each.

|  |  |  |
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A resinous concretion from fish $1 / 16$.
Mel .. .. .. .. $\frac{3}{3}$ вeer.
Saccharam $\quad . \quad$.. $\quad . . \quad \frac{1}{3}$ "
Silver leaves .. .. .. 30.
$\begin{array}{lllll}\text { Gold leaves } & . & \because & \because & 30 . . \\ \text { Silk coocoon } & . . & \because & . . & 1 \text { tola }\end{array}$

All these except Nos. $3,6,7,8,9,21,25$, and 26 must be powdered and sieved. Nos. 6 7,8 and 9 must be made into a paste by grinding in rose water, and then made into little balla and drien. These balls are powdered and mixed with the powders already prepared. No. 21 is soaked in water and its strained infusion is added to No. 23 honey. The mixtare is boiled to the consiatence of treacle.- No. 3 saffron is soaked in rose water and No. 24-sugar is dissolved in that water. This is boiled to syrupy consistence. The prepared honey and syrup are now mized; the powder is added to this mixture of honey and oyrup, and the whole torned into halwa or confection. Silver and geld leaves are put into the halwa and thoroughly mizod by stirring.

Doee-One anna weight of this halwe is given twice or thrices day.
Ther. nse-Strength giver of the body, restores loat vigour ; ieaful in debility, iadigeotion, cough, athms and fainting.
27. Brahms Ghritham-


Equal parte, in all thirty-two tolas, in the form of a paste and boil them together, till the watery portion is evaporated.

Doso- $\frac{1}{}$ to 1 tola to be taken twice a day with milk.
Ther. use-In epilepsy, nphonia and hoarsenese of voice.
28. Chyavanaprana-

Aegle marmelos.
Premne serratifolis.
Bignonia Indioa.
Gmelina arborea.
Bignnnia saaveolens.
The roots of Side cordifolia.
Hedsaarum Gangetioum.
Uraria lagopoides.
Phaseolns trilobus.
Piper longam.
Tribulus langainosus.
Solanom zanthocarpum.
Rhus succedanea.
Thyllanthus Niruri. Grapes.
Aplotoxis auriculata:-
Aquilaria Agallocha.
Chebulic myroboans.

Tinospore cordifolis.
Riddhi (Not being obtainable, Bala or side cordifolin is used).
Jivat (Not being obtainable, tinoapora oordifolia).
Rishabhaka (Bhumi kushmanda ís need).
Curouma eerumbet.
The tobers of Oypetus rotundus.
Boerbaavia diffus.
Meda (Withanis somnifera).
Elettaria cardamomam.
Nymphmastellata.
Red sandal weod.
Oonvolvulus paniontatus
'The roots of justicia adbatoda.
The root called kakoli.
Leea hirta.

Take one palam of each of these. Take also 500 fruite of Pinyllanthue Emblice and tie them loosely in a piece of oloth. Boil all these together in 64 eeers of witer down to 16 seers and strain the decoction. Throw out the seeds of the myrobalans and taking the remnante of the fruits, fry them in 6 palas of ghee and 6 palas of nesamum oil mixed together. The fried prodact is then to be reduced 10 a paste on a curry stone. After this, boil the deoootion and this paste, with 50 palad of sugar candy. When the boiled matter assumes ejme degree of conoistency, throw into it bamboo manna 4 palas, the pulv of Piper longam 2 palas, that of the bark of Cinnamomum zeyfanicnm 2 tolas' that of the leaves of Cinnamomum tamala 2 tolas, that of cardamoms 2 tolas, and that of the flowers of Mesus ferrea 2 tolas, and stir the contents. When cooled, add 6 palas of ghee and keep the compound in a jar long in nee for storing ghee. (From N. N. Sen's Ararvedic eystem of medicine).

Dose- $\frac{1}{2}$ to 2 tolas, vehicle being goat's milk.
Ther. use-Nutritive, torio, neeful in phthisis, and improves all conditions of debility.
29. Dasamoola Rasayanam-


Cook all these together according to the roatine method with four seers of ghee.
Dose- $\frac{1}{2}$ te 1 tola to be taken three times a day.
Ther. use-In asthma, and bronchitis.
30. Lasunadhi Ghritha-

Chief ingredients are-
Dasamoola.
Lashuna.
Trikatu
Haritaki.

The ten roots.
Allium sativom.
The three acrids.
Chebulic myrabolans.

Dose- $\frac{1}{4}$ to 1 tola, to be taken three times a day.
Ther. use-Stimulant, carminutive. Helps digestion, and promotes the flow of menses. Specially suitable in mania and amenorrhoes, hysteria, eto.
31. Majoonai İhuvathiaibah-


All these must be finely ground in honey. It is then converted into Halwa. Afterwards - 50 silver leaves or Warkhai roopa should be mixed with this Halwa.

Dose- $\frac{1}{3}$ to 2 tolas should be taken twioe a day with cow's milk.
Ther, use-Strength giver of heart and brain, also for incontinence of urine and sexual debility.

## 32. Kushmanda Rasayanam-

Confection of squash.- In preparing this medicine, old ripe gourds are seleoted. Those not at least a year old, are not approyed.

They are longitudinglly fivided into two halves and the pulp soraped out in thin flakesby an iron comb or soraper. The watery joioe that oozes out abundantly during this process is preserved, the seeds being rejected. The palp is boiled in the above mentioned juiee, till softened. It is then tied up tightly in a oloth, and the fluid portion allowed to strain through it. The softened and drained pulp is dried in the sun and the watery portion preserved for fature nse. Fifty tolas of the prepared pulp are fried in sixteen tolas of clarified butter, and again boiled in the juice of the fruit, till reduced to the consistence of hones. To this are added fifty tolas of refined sugar and the whole is heated over a gentle fire, till the mass assumes suoh a consistence as to adhere to the ladle. The pot is now removed from the fire and the following substances, namely :-Long pepper and ginger each 2 tolas, Cumin seeds, Cardamoms, Oinnamon leaves called tejapatra, Black pepper and Coriander each half a tola in fine powder, are added to the syrup and stirred briskly with a ladle, till the mass is cool.. Eight tolas of honey are now added to the confection which is preserved in a new earthen pot.

Dose-The dose of this medicine is from one to two tolas according to the age and strength of the patient.

Ther. use-It is useful in hæmoptysia, phthisis; asthma, uloeration of the lungs, hoarseness, eto.
33. Shrirag-

The chief ingredient is-Bilva.

1 Aegle marmelos.
$=$ Dose- 1 to 1 tola, to be taken three times a das.
Ther use-A Atringent. Useful in ohronio diarrhoea and dyeentery.

## Decoctions.

34. Abhayadhi-

Abhaya
Musta.
Dhanyaka.
Raktaohandana.
Padmaka.
Gudooohi.
Patha.

## Katuki.

Dose- $\frac{1}{2}$ to 2 trilas to be taken twice a day.
Ther use-Bitter tonic, alterative and laxative; useful in long continued fevers, :anoreria, and oonstipation.
35. Decoction Dasamoola-

Salaparni.
Prisniparni.
Kantakari.
Vribati.
Gokshura.
Vilva.
Syonake.
Gambhari.
Patala.
Ganikarika.
Desmodinm Gangetioum.
Draria Lagopoides.
Solanam Jaoquinii,
Solanum Indioum.
Tribulus terrestris.
Aegle marmelos.
Colasanthes Indioa.
Gmelins arborea.
Stereospermium suaveolens.
Premna spinosa

To prepare decoction in the uenal way.
Dose-1 to 2 ounces to be taken twice or thrice a day an the oace may be.
Ther use-In remittent fevers, puerperal fever, inflammatory affeotione within the oheet. effection of the brain and many other dicoasen suppoeed to be cauced by derangement of all the hamours.

## 36. Guduchyadi Decoetion-

This group called Guduchyadi consists of Tinospora Cordifolia, the bark of Melia Aseririohta, coriander seeds, pruaus padum, and Pterooarpus Santalinus.

Dose- $\frac{1}{2}$ to 2 tolas to bo taken twice a day.
Ther. $\mathbf{z}$ - Bitter tonio, atomachic and anti-periodic; nseful in dyopepaia, dscontery and malarial fever.

## Fremented Inpuelori and Decoctione.

37. Draksha Asava-

Chief ingredients are-
Urakshe. -/
Dhataki puahpa.
Sugar.
Vitie vinifers.
ose-f to 2 tolas to be taken twice s day after food.
Ther neo-Stimulant, diuretio and diaphoretio. Usefal in anorexis, indigegtion and Dyspepsia.
38. Kutajaarishta or farmented liquor of kutaja-
Kutaja root-bark. $\quad$ - Holarrhena adti-dyeenterice 18 eeen.

Raisins.
Madhuka.
Gambhari.

Holarrhena anti-d veenterioe 12 eeern.
Flowers of Bassia Iatifolia.
Bark of Gmelina arborea.

> Each eight tolas.

Boil them together in two hundred and fifty-six seere of water, till rednoed to cixty-four seers, and strain. Then add flowers of Woodfordia floribunda (Dhataki) two seers and a half, treacle twelve seers and a half, and let the mixtiure ferment for a month, after whioh it will be ready for use.

Dose- $\frac{1}{2}$ to 2 tolas twice a day after meals.
Ther. nse-Astringent, atimulant and anti-periodio ; useful in ohronic diarrhooa, dysentery and continued fevers.
39. Loha-asava-

Tron powder.
The three acrids.
The three myrabolans.
Ptychotis ajowan.
timbelia ribes.
Tubers of Cyperus rotundus.
Roots of Plumbago zeylaniọam.


To these should be added 64 palas ( 8 seers) of honey, $12 \frac{1}{4}$ seers of treacle and 120 seert of water. All these to be placed in an earthen jar long in use for atoring ghee.

The month of the jar must be closed. After a month the fermented liquid ghould be strained out. This drink should be administered in accordance with the condition of the patient and the nature of the disease.

Dose- $\frac{1}{2}$ to 2 tolas twice a day.
Ther. nse-Tonic, alterative; useful in anmmio dropsy.

## Linimbets, Thailams afa Ongthrats.

40. Adityapaka Thaila-

Sesamum oil.
4 seers.
Madder.
The three myrabolans.
Lac.
Turmeric (Cureama longa).
Orpiment.
Realgar.
Sulphar.
Equal parts (in all one,seer.)
Mix and expose to the sun.
Tber. use-jn eczoџa, scabies, eto.

## 41. Aswaghandha Bala Lakshathi Thailam-

| Penneru gadda (Withanis somnifera) | .. |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| ToLus. |  |  |  |  |  |  |

Add to the above 12 seers of water by measure and reduce to one-fourth of it by boiling. add to the decoction three-fourths viss of gingelly oil, 3 vises of cow's battermilk and mix.

To the above misture, add the paste of the following :-
Aswaghandha (Withania somnifera).
Root of obittamutty (Sida cordifolia)
Sanparashtram (Alpinia ohinonsis).
Renukalu (Piper aurantiaoum).
Ohengalva koshtu (Aplotaxis aurioulata).
Thungah gaddalu (Cyperas rotandus).
Sreeghandham (Santalum alba).
Turmeric (Curouma longa).
Katchoram ( ", zedoaria).
Katakarohini (Pierorrhiza kurroa).
Sathapa (Ruta angustifolia).
Sathaguppi (Seeds of Anethum sowa).
Pullah lakka (Aristoloohia indica).
Leaves of dushtapa (Daemia extensa).
Seeds of mullanghi (Raphanus satizus)..
Devadaru (Cedrus deodara).
Mangishta (Rubia cordifolia).
Athimaduram (Glyoyrrhiza glebra).
Vettiveru (Andro pogon muricatua).
Sugandha pala (Hemidermus indicus).
Ghantu Bharanghy (Olerodendron siphonanthasj.
Thamara gadde ( Root of Nymphe lotus).
-Padmakesaram (Thalamus of Nymphe lotus).
Take above drugs each of the weight of a two-anna piece or guivinga, then rab till paste is formed and at last mix in the decootion.

Boil the same by shaking it, till it comes to thailapakam.
Dose.- 3 to 8 drops-should not be given for more than three days.
Ther. use.-Useful in consumption, haemoptyis, ansemia, diabetes and'ohronic dysenteryshould not be given for more than a week.
42. Ollakramarda Thaila-

Chief ingredients are-
Chakramards (Cassia tora).
Bhringaraj (Wedelia oalendulaoea) (Erolipta alba). ?
Ther. use.-Useful in eczema and ringworm.

## 43. Dadrughna ointment-

Chief ingredient is
Rasakarpoora (Mercurio chloride).
Ther. use-Usefutin ringworm, psoriasis and other chronic skin diseases.
44. Ksheerabala oil-

Gingelly oil .. .. .. .. e. .. .. 1 bottle.
Milk .. .. ... .. .. .. 4 bottles.
Bark of the ront of side cordifolia $\quad . \quad . \quad . \quad . \quad 5$ palams.

- Grind in milk. Boil all these until all water goes away. Every day add the samekalkam withont gingelly oil.

Repeat the process as many times as required.
Ther. use-All nervous diseases.
Dose. - Four snnas weight to be given daily in decoction of oumin seeds.
45. Compound oil of vitex negundo-

Karunachi (Vitex negundo).
Four palans of the above in one measure of water to be pounded and pressed out three times.

To this water add the following mediaines for kalkam.
Vasambu (Acorus calamus).
Myrabolana without kernel.
Kolarakku (Lao stioks).
Sandal wood (Pterocarpus santalinais) $-1 \frac{1}{4}$ kazanohi esoh,
Kadagurogini (Piororrhiza Kurroa).
Boil into decootion.
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The kalkam medioinea are to be groaud well. One manhi (ono-fourth meseare) of cocosant oil, mast be added to the above degootion and then boiled and on the day it is to bo strained, the milkly juice of two copras or dried cocosmata in to be added. Boil again antil the whole is of arakkapaisam.

Apply this, on the hoed.
A patient-for a month's nes may require throe nazhis.
Ther. nee-For glandular awellings of the neok.
46. Pañchavalkaladhi Thailam -

Bark of five varieties of figa.
Do. curouma longa.
Hemidesmus indicus.
. Made into a decoction.

## Kalime.

-Gingelly oil.

- Boot bark of plantain.

Liquorice (Glyoyrrhiza glabra).
Cinnamom bark (Cinamomam zeylanioum).
Vilamicham (Andropogon morioatus).
Koshtam (Aplotaxis aurionlata).
Chandanam (Santalinum).
Prepare oil in the usual way.
Ther. -nse-Skin diseases, rheumstism, and leprosy.
47. Vidanga Thaila-

Chief ingredienta are-
Vidangà (Eǹbelia ribes).
Dantimula (Croton tigliam).

- Swarjika (Carbonate of soda).

I her. use-To be applied to the forehead. For relieving revere heedache. Unefuljin hemiorania.
48. Vishagharbha Thaila-


The solid ingredients shoold be benten into a paste with water and then boiled with the oil and cow's urine till the watery portion is evaported.

Ther. use-anodyne, sedative ; useful in hemiorania, paraplegia, sciatica, neuralgia and lumbago.
49. Abhayadi Modak.-(in Tablets).

Chief ingredients are :-
Trivrit (Ipoomea Turpetham).
Sugar (Saccharam).
Dantimula (Croton tiglium.)
Pippali (Pipor longum).
A palak (Emblio myrabolans).
Dose.-One to be taken as directed with warm water.
Ther. use.-Cathartic.
50. Amrita-Guggulu.-

Chief ingredeints are-
Gadoochi (Tinospora cordifolia).
Ela (Elettarria oardamomam).
Vidanga (Embelia Ribes).
Indrayava (Holarrhena antidyzenterioa).
Triphala (The three myrobolans)
Gugulu (Balsamodendron mukul).
Dose. -1 to 4 pilla of 6 grains three times a day with water.
Ther. use.-Alterative, and tonic. Useful in rheumatism.
.51. Chandraprabha Gutika.-
Chief ingredients are-
Trivrit (Ipoemea turpethum).
Uantimools (Croton tiglinm)
Twak (Cinnamemum zeylanioum)
Ela (Elettaria oardamomam).
Loha Bhasma (Iron bhasmam.)
Sugar (Saccharam).
Vanshaloohana (Bamboo manna).
Yavakshara (Carhonate of potash).
Swarjika 'Caibonate of soda).
Makshika Shasma (Calcined iron pyrites)
Dose. -1 to 4 pille of 6 grains each three times a day with milk or water.
Ther. nas.-Tonic, diaphoretio and diuretio; nseful in albuminuria, phosphaturia, and gonorrhoes.
52. Dhanvoantari pills.-

Dry ginger (zingiber officioinalis).
Kadukkai (Chebulio myrabolans).
Omum (Ptyohotis ajowan).
Nelavemu (Ophelia chiretta).
Cardamom (Elettaria cardanomum).
Cinnamom seeds (Oinnamomam zeylanioum).
Bark of the root of -
Cheruchinta (Solanum indioum).
Rudraksham (Gomphrena globosa).
Davadaram (Deodara devadara).
Patoha Karpooram (Camphorae fragrans).
Kandhivenna (dried dung of a baby elephant).
Saffron (Sassafaras indioa).
Secretion of the oivet eat.
Jawadhi.
All these in equal parts. First grind in decoction of cinnamom seede and then in rose water.

Dose.-1 to 4 pills to be taken three times a day.
Ther. nse.-Dyspepsia, hiocough and indigestion.
53. Gokshuradi Gugulu.-

Ohief ingredients are- -
Gokshare (Tribulus terrestris).
Gugulu (Baleamodendron mukul).
Trikatu (the three Acrids).
Triphala (the three Myrabolans).
Dose.- 1 to 4 pills of 6 grains each three times a day.
Ther. nee-Diaretio, alterative and tonio. Useful in albuminuria, gonorrhcoa and theumatism.
54. Mandura Loha.

Chief ingredients are-
Trikatu (the three Aorids).
Chitraka (Plumbago zeylanioum).
Videnga (Embelia ribes).
Makahika bhasma.
Mandoors bhasma.
Dose.-1 to 4 pilla of 2 grains eaoh to be taken twice a day after food.
Ther use.--'Tonio and haematinio. Useful in asthma, general debility, sexual debility and enlargement of spleen.
55. Punarnava Mandura.--

Ohief ingredients are-
Mandura Bhasma and Boerhavia diffusa.
Dose. - 1 to 4 pills of 2 grains each to be taken twice a day after food with milk.
Ther, nse.-Tonio, haematinio. Usefal in dropsy. Also in ohlorosis, heart affeotions, general and sexual-debility.
66. Shoathahar Loha.Chief ingredients are
Trikatu (the three Aarids).
Loha bhasma (Calcined iron).
Yavakshara (Carbonate of potasaium).
Dose.-1 to 4 pille of 6 graine each to be taken three timee a day aftar food.
Ther. use - Tonin, haematinio, gastric stimulant and antaoid. Ureful in dropoy due to anaemia, Bright's disessee and heart sfections.
57. Trayodasanga Gugulu.

Bark of Acacia arabica.
Physalia flexuosa.
Habusa (aromatio bleck stalks like those of black pepper)
Tinospora cordifolia.
Asparagas racemosus.
Tribulus Languinosus.

The seede of. Lettsomnis nerrosa.
Vands rozbarghi.
Dill reeds.
Carcuma verrmbet.
Seeds of Ptychotic ajowan.
Dry ginger.

One tola being taken of the pulv of eaoh of these ;-
Balsamodendron makhul 12 tolas and ghoe 6 tolas.
At first rab or pound the exudation of Balsamodendron with the ghee and then mix the powder with it and convert it into pills of aix grains each.

Dose.-1 to 4 pills three times a day.
Ther. use.-Useful in asthma and oystitis.
58. Yogaraj Gugulu.-

Roots of Plumbago zeylanioum. piper longum.
Seeds of Ptychotis ajowan.
Nigella Sativum.
" Embelia ribes. -" Ohidium diffusam. " Cuminam.
Pinus deodara
Piper Chaba.
Cardamoms.
Saindhava salt.
Vanda roxburghi.
Tribulus Languinosus.
Ooriander seeds.
The Three. Myrabolans.
Tubers of Cyperas rotandas.
The Three Aorids.
Cinnamomam zeylanicum.
Roots of Andropogon Maricatus.
Carbonate of potash.
Pinus webbiana.
Leaves of Oinnamomum tamala.
Aplotaxis auriculata.
All in equal parts, pound and mix them together. Truke also purified Balsamodendron mukul equal to the combined measure of all the sbove ingredients. First pound it with ghee and add powders previously made and pound them again with ghee and convert into pille of 6 grains each.

Dose.-1 to 4 pills.
Ther. use.-Useful in paraplegia and bemiplegia.
59. Agnitundi Vati-

Chief ingredionts are-
Kajjali (Bulphide of mercury). Trikatu (The three Acrids).

- Chitraka (Plumbago zeylanioum). 'Two ksharas (Yavakshra and Swarjiksehars).
Doser- 1 to 4 pills of one grain each with milk or water after meals.
Ther. use-Bitter, stomachic, tonic and stimalant. Useful in dyspepsia, indigestion. heart weakness, lumbago, anemis and sexual debility.

60. Agni Rasa-

Chief ingredients are-
Kajjali (Sulphide of meroury).
Haritaki ('Terminalia chebula).
Pippali (Piper longrom).
Bidhitakatwak (Terminalia belerica).
Yastimadhu (Glycyrrhiza glabra).

- Vasa (Adhatoda vasica.)

Dose,-20 to 60 graing to be taken with honey three times a day followed by milk.
Ther use-Alterative, tonic, expeotorant and anti-spasmodio. Useful in bronchities hoarseness of voice, asthma, pneamonia and other ohest diseases.
61. Agnisoot Rasa-

Chief ingredients aro-
Kajjali (Sulphide of mereary).
Shankha bhasma (Calcined conch)

- Kapardi bhasma.

Máaricha (Piper nigrom).
Dose. -2 to 8 pills of 1 grain each three times a day with rice water or whey.
Ther. use-Gastric stimulant and antiseptic. Useful in dyspepsis, diafricoa and dyentery.
62. Arogya Vardhan:-

Chief ingredients are-
Kajjali (Sulphide of meroury).
Loha basmam (Iron bhasmam)
Abbrak bhasma (Tale bbasmam). Tamra bhasma (Copper bhasma). Trifala (Three myrobalans!. Silajit (Exudation from rocks). Gugulu (Balsamodendron mukul). Chitrak (Plumbago zeylanioa), Katuki (Piororrhiza kurroa)
Dose.- 1 to 4 pills of 5 grains to be taken three times a day with milk
Ther. use-Alterative, aperient, and tonio; useful in dyspepsia. -
63. Agnikumara Rasa-

Chief ingrerients are-
Kajjali (Sulphide of mercury).
Trikatu (the three Acrids).
Swarjika (Carbonate of soda).
Shankhs bhasma (Conch shell bhasmam).
Dose.-1 to 2 pills to be taken twice a day.
Ther. nse-才
64, Brihat Chandrodaya Makardhwaja-
Makaradhwaja ( 1 part).

- Camphor

Nutmegs (Myristioa fragrans)

- Black pepper (Piper nigrum)

Clgves (Engenia caryophyllata)
Musk (one-sixteenth part).
Mix together and make into pille about ten grains each.
Dose.-1 to 2 pills twive a day with milk.
Ther. use--Tonic, useful in nervous and general debility, imnntense, premature old age,

## eto.

These pills are enelosed and wrapped in betel leaves chewed. Along with this medioine, a generous diet consisting of meat, ghee, pulses, etc phould be taken.
65. Devkusumadi Rasa-

Chief ingredients are-
Lavanga (Eugenia caryophyllata).
Chandana (Santalum album).
Saffron (Sassafera indica).
Meroaric chloride. -
Döse.--1 t? 4 pille of one grain each to be given three times a day.
Ther. use.-Alterative and tonic ; useful in syphilitic affections.
66. Ekangaverra Rasa--

Chief.ingredients are-
Kajjali (Sulphide of mercury).
Vanga bhasma (Oalcined tin).
Loha bhasma (Caloined iron).
Naga bhasma (Calcined zino).
Tamra bhasma (Caloined copper).
Abharka bhasma (Oaloined talo).
Vishatinduka (Nux vomica).
Dose.-1 to 4 pills of 2 grains eaoh to be taken twice a day.
Ther. ose.-Tonic, alterative. Useful in hemiplegia, paraplegia and paralysis.
67. Jatiphaladhi gutika-

Nutmeg.
Arabian dates.
Opinm.
All in equal measure-macerate in the expressed juice of betel leaves, pills are formed of three ratis each.

Dose.-i to 4 pills of one grain each to be taken three times a day.
Ther: ase.-Anodyne and astringent. Useful in dysentery, acute or chronio diarrhoea.
68. Jalodarari Rasa-

The ohief ingredients are-
Piper longum.
Black pepper.
Coppor.

- The pulv of the tubers of eurouma longa
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Take equal meseures of these and pound for one day in the milky juioe of Eupborbia merifolia. To it, add the pulv of the ceede of aroton tiglinm, equal to the united meecure of the drugs named above.

Dose. - 1 to 3 pilla of one grain eaoh to be taken with water.
Ther. nee--Cathartio ; useful in asoites and dropay.

## 69. Kriminudgara Rasa-



Pound all these together and convert into pill mass.
Dose. -1 to 4 pills of 5 grains each twice a day.
Ther, use.-Destroyer of all kinds of intestinal worms in three days.
70. Kañak Sundara Rasa-

Chief ingredienta are-
Kajjali (Sulphide of meroury).
Datara seeds.
Dose.-1 to 3 pills of 2 grains eaoh three times aday with eugar. Each pill oontaine ong-third grain daturs seeds.

Ther. use-Diuretic, antispasmodic and anodyne; useful in neuralgia, retention of arine, and acute sore tinroat.

## 71. Lakshmivilas Rasa-

Chief ingredients are-
Abhrak Bhasma.
Kajjali (Sulphide of mercury).
Camphor.
Datura seeds.
Cannabia Indica, eto.
Dose-1 to 4 pills"of 2 grains each twice a day, wrapped in betel leaves followed by milk.

Ther. nse-Tonic, aphrodisiac, anodyne, useful in sexual debility, phthisis, authma.
72. Mriganka Rasa-


Bhasma of pearls.. 3 tolas.
Friod borax .. 2 mäshas.
Pound these in Kanjika and make a ball and when dry have it enolosed in a cruoible and roasted in the apparatus called lavana yantra.

Dose-l to 4 pills of 1 grain each with milk twice a day after meale.
Ther. use-Tonic, haematinic and alterative ; useful in phthisis.
73. Maha Mrityunjaya Loha-

Chief ingredients are-
Kajjali (Sulphide of mercury). $\mid$ Swarjika (Carbonate of soda).
Abhraka bhasma.
Manobhila (Realgar).
Loha
"
Haritala (Orpiment).
Tamra
Tatha (Sulphate of copper).
Yavakshara "(Carbonate of potash).
Dose-1 to 4 pills of 2 grains each twice a day after meals.
Ther. use-Alterative, tonic, diaphoretic; nseful in diseases of spleen, hepatic colic, asthma and headache. Also in malaria with enlargement of apleen.
74. Maha Lakshmi Vilasa Rasa-


Copper. Pond all these together with the expressed juice of betel leaves and form pille of a grain each.
vose- 1 to 4 pills three times a day with milk.
Ther. nse-Tonio, alterative and haematinic; nseful in phthiais, and general and sexual debility.
75. Maha .Jwarankusa Rasa-

The ingredients are-


Taking these in equal measure, they are macerated for three days in the expressed jrice of decoction of citras acida of the variety called Gonra, the leaves of Ocimum Sanctam, the roote of Plumbago Zeylanioa, the leaves of Cannabis Sativa, and the leaves of Tamarindus Indica. Pounding them together, pills are formed of the weight of 2 grains each.

Dose-1 to 4 pilla to be taken three times a day.
Ther. use-Useful to oheok attaeks of malarial fever:

## 76. Mrityunjaya Rasa-

Chiof ingredients aro-
Kajjali (Sulphide of mercury)
Aconite (Aconitum ferox).
Tankana (Borax)
Dose-1 to 3 pills of 1 grain each three times a day with water.
Ther. use--Diaphoretic, antipyretic and anodyne; "iseful in fevers, sore throst, neuralgia, and all acute inflammations as pneumonia, erysipelas and neuralgio affections.

## 77. Nityananda Rasa-

The ingredients are-
Meroury ohtained from Cinnabar.
Sulphur.
Copper.
White brass.
Tin.
Yellow orpiment.
Sulphate of oopper.
The ashes of conch shells.
The three acrids.
The three myrobalans.
Iron.
Embelia Ribes.
Panchalavana (The five salts)

Piper Chaba
The roots of Piper longum.
Habnsha.
Acorns calamus.
Curcuma zerumbet.
Cissampelos hernandifolia.
Pinus deodara.
Cardamom seeds.
Lettsomia nervosa.
Convolvals Turpethom.
The roots of Plumbago zeylanioum and the roots of croton polyandrum.

Take equal measures of these and pound them together with the decoction of Ohebulio myrobalans. Make pills of 2 grains eaob.

Dose-1 to 4 pills to be taken three times a day.
Ther. use-Tonic and alterative; useful in elephantiasis.
78. Naracha Rasa- :

Mercury ( 1 part). $\quad$ Fried borax.
Sulphar.
Piper longum (2 parts).
Blaok pepper.
Dry ginger.
Seeds of denti (Croton polyandrum) divested of hask, equal to the anited measure of the abovenamed drugs. Pound all these for three days in the exudation of Eaphorbia nerifoliaInsert the pounded product within the hollow of a ripe cocoanut and roast in strong fire. When the roasting is completed, take out the compound and form pills of one grain each.

Dose-1 to 3 pills as directed by the physioian.
Ther. nae-Useful in oonstipation, oirrhosis of the liver with ascites and dropay.

## 79. Narayana Jwarankusa-

Ohief ingredients are -
Arsenio.
Haritaka (Chebulio myrobalans).
Aconite.
Trikatu (The three acrids).
Kajjali (Sulphide of mercury).
Dose-1 to 4 pills of one grain each to be taken three times a day after food,
Ther. use-Antipyretio and antiperiodio; useful in malarial fever and anaemia,
80. Panch Vakra Rasa-

Chief ingredients are-
Kajjali (Meroary and salphar).
Aconite (Aconitum ferox).
Maricha (Pipor nigram).
Pippali (Piper longum).
Dose-1 to 4 pills to be taken every three hours.
'Ther. use-Useful in fevers and all looal and acute inflammationg; such as pneamonis tonsilitis, eto.

Ther. nse-Tonio and antiperiodia Ueeful in malaris when quining is not tolerated. Usefal in obronic skin diseases, e.g., cosema, psoriasis, eto., and asthma.
82. Shroasakulara Rasa-

Meroury.
Salphur.
Aconitum ferox.
Fried boraz.

## Reelgar.

Blaot pepper.
The threo aorids.

Take equal measures of each of these, pound them together with water and make pille of 1 grain each.

Dose- -1 to 4 pills to be taken three times a day.
Ther, use-Sedative and diaphoretic ; useful in fevere and painful neuralgio affeotiona.
83. Sarcanga Sundara Rasa-


Macerate all these in the juice of Citrus acids, pound them together and make into a ball. Place this ball within a crucible and subject it to the process of rossting oalled Gaja puta in a strong fire. When cooled, take the ball out and ponnd the products. Add half a part of iron and cinnabar, (half the weight of iron) and mix them together.' The measare of a dose is 2 grains and the vehicle is the pulv of Piper longam, or honey, or ghee or expreseed juice of the betel-leaf, or sugar or the juice of ginger.

Dose-n 1 to 4 pille to be taken three times a day.
Ther. use-Alterative and sedative; nseful in asthma and general debility.
84. Smriti Sagar Rasa-

Chief ingredients are-
Kajjali (Mercary and sulphur).
Manoshila (Realgar).
Haritala (Orpiment).
Tamra bhasma (Copper bhasmam).
Dose-1 to 4 pills of 1 grain each to be taken twice a day with Brahmi Ghrits followed by milk.

Ther. use-Alterative, tonic; useful in epilepsy and mania.
85. Shanka Rasa (Shanka Vati)-(in tablets)

Chief ingredients are-
Ehankh bhasma (Couch shell bhasmam).
Chinchakshare (Tamarindas Indica).
Tive salts (Five salts). -
Trikato (Three aorids).
Kajjali (Mercury and salphur).
Aconite (Aconitum ferox):
Dobe- 1 to 4 tablets to be taken twice a day.
Ther. vse-Useful in indigestion, intestinal colic and tympanitis.
86, Tribhuvan Keerti Rasa-
Chief ingredients are-
Kasasindura (Mercurial preparation (red oxide)).
Aconite (Aconitum ferox).
Trikatu (Tbe three acrids).
Pippali moola, Piper longum (root).
Dose- 2 to 6 pills of 1 grain each to be giveu every two hours, until fever subsides.
Ther. use-Anodyne, antipyretic and diaphoretic; nseful in high fevers and all local acute inflammations, such as those of pneumonia, erysipelas and painful neuralgic affections.
87. Trailokya Chinthamani Rasa--

Chief ingredients are-
Kajjali (Salphide of meroury).
Heerak bhasmam (Calcined diamond).
Suvarna bhasmam (
Suvarna bhaemam (" gold).
Raupya bhasmam ( ", silver).
Tamra bhasmam ( "' copper)
Abhraka hhasmam (
Mukta bhasmam
Pravala bhasmam
taleal
pearl).
coral).

Vaikrant bhaemam (Caloined diamond).
Haritala (Orpiment).
Manashila (Realgar).
Aconite (Aconitum ferox).
Dose- 1 to 3 pills three times a day.
Ther. nse-Useful in gastric .disorders, general debility, asthma, phthisis, diarrhoes, eolio, anæmia, sexnal debility, etc.
88. Vatari Rasa-

| Mereary | $\cdots \quad$. | - | -: | 1 part. |
| :---: | :---: | :---: | :---: | :---: |
| Sulphur | .- .. |  |  | 2 parts |
| The three my rabolans | .. .. | $\cdots$ | . | 3 |
| Roots of Plumbago zeylanioum | $\cdots \quad$. | -. |  | 4 |
| Exudation of Balsamodendron mukhul | . . | $\cdots$ |  |  |

Pound these together with castor oil.
"
Dose-1 to 4 pillg of 2 grains each to be taken three timee a day.
Ther. ase-All yorts of nervous diseases.

## 89. Vadoanal Rasa-

Chief ingredients are-
Kajjali (Sulphide of meronry).
Pancha lavana (Five salts).
Yavakshar (Carbonate of potash).
Swarjikakshar (Carbonate of soda).
' 1 ankana (Borax).
Dose-1 to 4 pille of 5 grains each three times a day.
Ther. use-Stomaohio, antacid, and carminative, indigestion, dyspepsan.
90. Vataraktantaka Rasa-
'Take in equal measures of-
Meroary.
Sulphur.
Iron.
Tabers of Cyperus rotandus. Orpiment.
Realgar.
Silajit.
Exadation of Balsamodendron makhal.
Embelia ribes.
The three myrabolans.
Sea-froth.
Boerhaavia diffuea.
Pinus deodara.
Roots of Plumbago zeylanicum.
Serratula anthelmintica.
Berberis asiatioa.
Clitorea ternatea of the white variety.
Macerate them thrice in the decoction of the myrabolans, "and the expressed juioe' of the leaves of verbeaina calendulaces and make pills of the size of the seeds of phaseolus radiatum Dose-1 to 4 pills of 2 grains each to be taken three times a day.
Ther. use-Useful in nervous diseases.
91. Fasant Kusumakar Rasa-

Chief ingredients are-
Vaikrant bhasma (Diamond Bhasmam).

| Suvarna | $"$ | (Gold | (Talo |
| :--- | :--- | :--- | :--- |
| Abhrak | $"$ | (Talo |  |
| Mukta | $"$ | (Pearl | $"$ |
| Praval | $"$ | (Coral | ). |
| Vanga | $"$, | (Tin | $"$ |

Dose-1 to 4 pills of 11 grain each, three" times a day with milk.
Ther. use-General tonio; useful in diabetes insipidus, sexaal debility, phthisis, asthma and general weakiess. :
92. Maha Yogaraja Gugulu-

Chief ingredients are-
Guggulu (Balsamodendron mukul).
Triphala (The three myrabolans).
Vanga bhasma (Tin bhasmam).

| Raupya | " | (Silver | ", |
| :---: | :---: | :---: | :---: |
| Naga | " | (Zino | " ${ }^{\prime \prime}$ |
| Loha | " | (Iron | , |
| Abhrak |  | (Talo |  |

Ahasa sindura (Kerourial preparation red oxide).
Mandura bhasma (Caloined fron oxide).
Dose-1 to 4 pills of 1 grain each, three times a day.
Ther. nse-Alterative; tonic. Useful in aynovitio, paraplagia, hemiplegia and other nervous affeotions.

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98. Ohathwrainka Rava-

| Mercary 7 |  |
| :---: | :---: |
| Sulphur |  |
| Iron | One part eaoh. |
| Mios |  |
| Gold |  |

Pound these logether with the expreseed juioe of Aloe Indios and mate into a bell. Oover this ball with the leaves of Rioinas communis, and heep it for three days within e heap of paddy. Take it ont after that period, and make pille of one grain enoh.

Doso-1 to 4 pills, to be taken twice a day after mealo.
Ther. use-Tonio and heematinio; useful in phthisis, acthma and aneemia.

## 94. Mahatiktha Ghritham-

Chief ingrediente are-
Saptaparna (Alstonia echolaris).
Katuki (Piororrhiza kurros).
Patha (Cissampelos pareira).

- Parpat (Oldenlandea herbacea).

Moorva (Clematis triloba).
Vasa (Acorus calamus).
Sariva (Hemideamus indicus) and other bitter tonice.
Dose- $\frac{\pi}{2}$ to 2 tolas, to be taken twioe a day.
Ther. use-Bitter tonic and alterative; usefal in akin diseases.
95. Pranadhi Gutika-m

Chief ingredients are-
Haritaki (Chebulio myrabolann).
Shunti (Zingiber offioinale).
Marioha (Piper nigrum).
Pippali (Piper longam).
Pippali moola (Root of piper longam).
Sugar (Sacoharum).
Dose--1 to 4 tablets, to be taken twice a day with water.
Ther. use-Laxative and alterative; useful in dyepepsia and oonalipation.
96. Rasna Gugulu-

Ohief ingredients are-
Rasna (Vanda Rosburghii).
Gugulu (Bdellium).
Dosem 1 to 4 pills, to be taken three times a daj.
Ther. use-Alterative and tonic; useful in scistioa, paraplegia, nemiplegis and othur nervons affections.

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97. Kanchanar Guggulu-
    Chief ingredients are-
    Kanohnartwak (Bauhinia variega*a).
    Triphala (The three myrabolang).
    Trikatu (The three acrids).
    Varana (Orateeva religiosa).
    Gugnua (Bdellinm).
    Domow-1 to 4 pilla, to bo takem three timee a day with water.
    Ther. ase-Alterstive and tonic; nseful in scrofula, fistals, leproey, uleers, eto.
98.NOhandrodaya No. }1\mathrm{ (Suvarna Ghatit makhardhooaj)- .
    Dose-2|to 6 grains, to be taken twice en daj with bonney followed by milk.
    Ther. nso--Useful in serual debility and murrous discome.
```


## 61

Index of Formulae of Compounde.

Serial number and name of the dracto.

1. Abhrak bhasmam.
2. Coral bhasmam.
3. Mukta bhasifam.
4. Makshika bhasmam.
5. Raupya bhasmam.
6. Tamra bhasmam,
7. Annabedhi sinduram.
8. Ashta chnrmam.
9. Avipattikara ohnriam.
10. Arkamulá churnam.
11. Chithrakamuladhi churnam.
12. Compound powder of Justicia Adhatoda.
13. Oompound constipation.
14. Eladi ahurnam.
15. Leghn Gangadhara churnam.
14B. Vridhe Gangadhara churnam.
16. Kalyanaksharam.
17. Lavangadi churnam.
18. Musalyadi churna.
19. Inhalation powder for inflaenza.
20. Rohitak charnam.
21. Swayamagni.
22. Swadishta Virechan churnam
23. Baraswathi churnam.
24. Amritha Bhalataki.-
25. Amritha Prasa Ghritha.
26. Abhavamalliki.
27. Aarairaisah.
28. Brahmi Ghritham.
29. Chyavanaprasa.
30. Dasamoola Resayanam.
31. Lagmadhi Ghritha.

Serial namber and name of the drug. 31. Majoonai Khnvathiaibáh. 32. Kushmandaka Rasayanam.
33. Shrirag.
34. Abhayadhi.
35. Decoction Dasamoola.
36. Guduchyadi Decoction.
37. Draksha Asava.
38., Kutajaarista or fermented liquor of kntaja.
39. Loha-asava.
40. Adityapaka Thaila.

## 41. Aswaghandha

Bels
Lakshathi Thailam.
42. Chakramarada Thaila.
43. Dadraghna ointment.
44. Ksheerabala oil.
45. Oomponnd oil of Vitex negundo.
46. Panclavalkaladbi Thailam.
47. Vidang Taila.
48. Vishagharbha Thaila.
49. Abhayadi Modak.
50. Amrita-Gugula.
51. Chandraprabha Gutika.
52. Dhanwantari pills.
53. Gokshuradi Gugula.
54. Mandura Loha.
55. Punarnava Mandura.
56. Bhoathahar Loha.
57. Trajodasanga Gugulu.
58. Yogaraj GuguIn.
59. Agnitandi Vati.
60. Agni Raea.
61. Agnisoot Rass.
62. Aarogys Vardhani.
63. Agnikamara Ress.
64. Brihat Chandrodaya

Serinl namber and name of the drag.
© ${ }^{\text {ós. }}$ Devkusumadi Rasa.
66. Ekangaveera Rasa.
67. Jatiphaladhi Gatika.
68. Jalodarari Rase.
69. Krimimudgara Rasa.
70. Kanak Sundara Rasa.
71. Laxmivilas Rasa.
72. Mriganka Rasa
73. Maha Mrityunjaya Loha.
74. Maha Lakshmi Vilasa Rasa.
75. Maha Jwarankusa Rasa.
76. Mrityanjaya Rase.
77. Nityananda Rasa.
78. Naracha Rasa.
79. Narayana Jwaranknga.
80. Panch Vakra Rasa.
81. Ramban Rasa.
82. Shwasakutara Rasa.
83. Sarvanga Sundara Rasa.
84. Smriti Bagar Rasa.
85. Shanka Rasa (Vati).
86. Tribhuvan Keerti Rasa.
87. Trailoyka Chinthamani

Rasa.
88. Vatari Rasa.
89. Vadvanal Rasa.
90. Vataraktantaka Rasa.-
91. Vasant Kusumakar Rasa.
92. Maha Togaraja Gugulu.
93. Chatharmaka Rasa.
94. Mahatiktha Ghritham.
95. Pranadhi Gutika.
96. Rasna Guyalu.
97. Kanchanar Gugulu.
98. Chandrodaya No. I (Suvaraa
makhardhwaj). Ghatit-
makhardhwaj).

APPENDIX No. 6.
Statement ohowing the diseases treated by Ayurvedio and Unani medioines from 12th Juls 1918 to 81 ist Deoomber 1919.


## APPENDIX No. 7.

The following substances were aralysed by the Chemical Examiner, Madras, and included in the preliminary report.

1. A sample of Poornachandrothayam whioh is supposed to contain. gold was obtained from Venkataramana Dispensary, Mylapore. Some of the Indian physicians doubt whether gold which is not volatile is present in the compoand. Ohemical Examiner's report showed that the sample oontained gold.
2. Specific powder--vide Notes INo. 22. This was found to consist of mostly ferric oxide traces of gold, lime sulphates.
3. Poonier Chunam-vide presoription No. 32 contained lime, sodium oxide, potassiam oxide, alomina, carbonic acid and ohlorine.
4. Coral Basmam-vide presoription No. 32 contained caloium carbonate and sulphide.
5. Tale Basmam-vide presoription No. 35 contained alumina, magnesia and siliea.
6. Iron Kalpam-vide prescription No. $36 ;$ contained ferric oxide and some vegetable powder.
7. Vasantha Kusumakaram oontained meroury, gold, iron, lime, silica, alaming and traces of tin.
8. Karooba and Pearl Basmam contained mostly resinous product resembling benzoin and traces of lime were also present in the ash.

Substances analysed by the Chemical Examiner, Madras.

## Vegetable Drugs.

1. Chempallanhi (Colyoopterus Floribunda)--yields an extract whose colour reactions resemble those of Santonin.
2. Eolipta Prostrata-contains a resin the identity of which could not be asoertained. It does not yield the reactions of Podophyllin

Neither Glucosides nor alkaloids were deteoted in them.


## Mneyzals.

7. Mukta Basma-mostly calcium oarbonate.
8. Raupya Basma-metallic silver.
9. Tamra Basma-mixture of metallic copper and copper oxide.
10. Abraka Basma-plenty of silica and alumina with traces of iron'( 1,000 times calcined).
11. White powder-Calemel:
12. Bribat chandrodaya Makaradwaja--vegetable matter, silios, alumina, gold and meroury with traces of iron. No alkaloids were detected in it.
13. Vasanthakusmakars Rasa-Vegetable matter, alumina, lime, meroury and gold. No 'alkaloids were deteoted.
14. Smrithisagara !Rasa-vegetable matter, oopper, mesoury and arsenic. No alkoloide were deteoted in it.

## APPENDIX No. 8.

List of some of the important Indian druge suggestod to be ineluded in the beturree on Materia Medica.

1. Aconitam Heterophyllam.
2. Nigella Eativam.
3. Tinospora Cordifolia.
4. Berberis A ristats or $\Delta$ siatios.
5. Argemone Mexioana:
6. Hydnocarpua Inebriane.
7. Urgines Indica.
8. Tribalas Terrestris.
9. Toddalia Aculeata.
10. Ailanthas Malabarioum.
11. Azadiraofita Indioa.
12. Semicarpos Anacardium.
13. Bntes Frondosa.
14. Caesalpinia Bonducellae.
15. Myrabolans (the three).
16. Hydrucotyle Asiatica.

1i. Vernonia Anthelmintica.
18. Eelipta Pròstrata.
19. Piororrhiza Kurroa.
20. Asparagus Racemosus.
21. Alstonia Soholario.
22. Holarrhene Antidyeenterion.
23. Calotropis gigantee and procera.
24. Tylophora Aathmation.
25. Ipomoes 'Turpetham.
20. Adhathoda Vasion.
27. Kuphorbia pilulifera.
28. Plumbago Zoylanicum.
29. Podophyllum Emodi.
30. Herpestia Monniera
81. Phyllanthua Nirari.
32. Garoinia Morella.
83. Boymida Febrifuga.
34. Citrulus Oolveynth:
35. Hemidesmus Indios.
36. Kaladana (Ipoemoea Hederacea).

B7. Boerbanvia Diffuea.
38. Asteracanthus Longifolia.
39. Jatamansi (Valerian Indice).
40. Cassia Fistula.

## APPENDIX No. 9. <br> A summury of the methods of treatment by medicated oils, etc., peculiar to Malabar and the West Coast.

It is said that Malabar vaidyans are able to oure many diseases whioh are considered incurable by the physicians of other parts of India and that the seoret of their auccess ia attribatable to these special methods of treatment adopted by them. Of these methoris one of the most important is treatment by douching or applying medicated fluids in a stream, as described below:

Douching is done either to the scalp or to the entire body or to a limb or part of the body. For proper douching, the services of an experienced and skilful vaidyan is required and certain apparatuses are necessary. Of the latter, the two most important are-
(a) A wooden-plank shaped like a flat hoat of proper length and breadth with raised edges, holes for the fluid to run out, handles for the patient to hold on, etc.
(b) A mud-pot of superior clay with a central hole at the bottom through which a wiok suspended from within the pot langs.

This arrangement is for douching on the scalp with medicated Huids. For douching over the entire body except the head two sets of 4 mad vessels with side tubules to hold the medicated fluids are required. Local douching may be oarried out with a pair of pots with side tubules or with the pot arrangement for douching the head: Douching for the eye ie generally done in a funnel made out of jack tree leaf with a fine hole at the bottom. The medicated fluid is placed in the vessels. The liquids generally used for douching are -
(1) Medicated oils.
(5) Human milk.
(2) Milk.
(6) Certain decootions.
(3) Buttermilk.
(7) Cold water, etc.
(4) Cocoanut water.

Of these, the most important is donoking by buttermilk. The battermilk has to be very carefully prepared- from pure milk after adding certain drags and boiling. When milk is used for douching, freeh drawn milk must be used or if that is not possible milk should be previously boiled with certain drugs. Medicated oils and clarifed butter should be made warm for douching. Certain precautions are also necessary in douching with human milk, cocoanut water, fermented rioe water; deooction, eto. There are several minute details to be attended to in the proper performance of doughing such as, the extent of motion to be given to the pot containing the fluid, preparation of the wick, of the oil for application to the head, and of the medioines for internal uee, selection of servants, temperature of the water for bathing, ete.
'Ireatment by donching of the soslp is generally resorted to in cases of insanity, ohronio headache, ozeana, facial paralysis, eto. Douching of the whole body is done in oases of paralysis and other affeotions resulting from disorders of the wind humour. Local douching is done to relieve acute and chronio inflammatory affeotions of the joints, certain diseases of the ejes, eto.
(b) Massage with medicated oils.

This is generally done where patients find it difficnlt to undergo treatment by douohing on acoount of its expensiveness or for want of time. In this process the patient is made to he on the special wooden plank already mentioned. The medicated, oil for the sealp is then applied, and thereafter, the oil specially prepared for application to the body is warmed and applied, all over the body by four men with the aid of pads made out of rags. After this, gentle massage to the whole body is given by these men. Massage should be done in the prone, supine, and side positions and every now and then fresh warm oil should be applied during its course. Patiente are generally advised to use paste of green gram for removing the oil from the body when washing after massage.

For washing the head, water in which, emblic myrabolans are boiled should be nsed.
Diet - -chillies should be altogether avoided.
.'Tamarind must at least be one year old.
Salt must be pure or saindava salt must be used.
Pepper instead of ohilliee and ghee instead of coconnut oil may be used.
Buttermilk is allowed.
Mutton may be used.
Fish, pingelly seeds, blaok gram, epirita, yam, tuberous roots, pampking, brinjals, dramatioks, eto., ghould be avoided.

Cuoumber, Momordioa Indico, plantaing, gooseberry, green gram, and anake gourdo are allowed in the form of ourry. Cold water is not allowed, but water in whiah oyperas rotundus or ginger is boiled may be used. Expoeure to heat, oold, rain, high winde and amoke must be aroided.

Another form of masagge used in what is known an Nararakishi. In this proome boilod medionted navarai rice is need along with warm medicated oils for massage, either in the form of pads or in the torm of porridge by direct manual applioation. This treatment is reeortad to in chronic diseasee of the nervons system, paraplegia, hemiplegia, ohronic rheumatiom, dyapopua and neuralgias.

Application of Medicatod oile to the head.
There are four different ways in whioh this is oarried out. First is Birodhare whioh has already been desoribed as donohing or pouring in a atream of medioated oile or other fluide on the head.

Second is Sirovasthi.

## Sirobasthi:

I'his is considered to be a very important method of treatment and is apposed to give relief in all diseases ocourring in the upper part of the body cansed by the derangement of the wind, humour suoh as headache, hemiorania, certain disessen of the ore, earache, noisen in the earfacial paralysis, dryness of the mouth, dryness of the nose, giddinees and all disorders of the cerebral nerves. The process consists in applying a leather ring 4y" or more in broadth all round the head and fixing its lower margin to the skin by-a paste of phaseolus mungoes and then filling the aavity thue formed on the top of the bead with lake warm medicated oil. The. oil is generelly retained till the pain is relieved or a disoharge from the nose and eyed comes out. After that, the oil is removed and the head is washed with warm water. The oil has generslly to be kept on the head from half an hour to one hour according to the caase of the dieorderderangement of phlegm, bile or wind.

The third form of the application is Pichu and in done by applying to the soalp cotton soaked in oil.

The fourth is called Abhyanga in which the medicated oil is cimply rubbed on the head.

# Offior of thr Honorabr Prygiolang. Gbneral Hospital, Madras, 2nut August 1920. 

N். 29.
From

Madras.
To
Tht Hon'ble thr SURGEON-GENERAL
WITH THR GOVERNMENT or MADRASs.
Madras.

SIR,
I have the honour to submit herewith my third report on the investigation intoindigenous drugs.

Appended herewith are-

1. Single drugs investigated.
2. Compound drugs investigated.
3. Formulæ of compound preparations.
4. Summary of druge and componnd preparations investigated with index.
5. Statement showing the diseases treated.
6. List of drugs and compound preparations mentioned in the first or seoond report and: given further trial.
7. Summarised statistics of leper patients with notes.
8. List of drugs and compound preparations, investigated from the commencement of investigation to ulst Augast 19\%0.

I have the honour to be,
Sir,
Your most obedient servant,

## APPENDIX-I.

single drugs investigated.

## 1. Anamirte cocewlue-

Natural order-Menispermaces.
Vernacnlar names-Tam., Kakka-kolli-verai ; Tel., Kahkamari; Mal., Nanjin Kúru.
The seeds of this plant which are said to be deadly poisonous to the crow, fish and bugs are :said to possess reputed anti-parsaitio propertios. An ointment oontaining 80 grains of finely powdered seeds to one ounce of vaseline was nesed an'external applioation in ringworm. Caces -of one to two montha' duration were cured by a few daya' applioation, but ohronio casee did not derive benefit from its use.

Picrotoxin, a crystalline principle obtained from the seeds, is ueed in very minute doees by the western practitioners as a nervine tonio in epilepsy, ohores and other apasmedio diseases aud also to give relief in night sweate of phthisis.

## 2. Alstonia scholaris-

This drug is considered by vaidyans to possess etrong anti-malarial properties. In my last report, I mentioned that its action was very slow. On a further trial of this drug I have found :that it does not possess all the virtues attributed to it in the Hindu Pharmeooposis.

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3. Aegle Marmelos (Bael)-
    Natural order-Butaoem.
    Vernzoular names-Tam., Vilva-pazham; Tel., Bilva-pandu; Mal., Vilvem.
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The fruit of this tree is said to be very effieacious in oases of ohronio diarrhcea and dysene tery especially so in ohildren suffering from these ailmenta. In cases of ohronic oonstipation, it is said to act as a laxative. A liquid extraot of this fruit was tried in several casee of dyeentery and diarrboea and found to be generally useful. A syrup of the palp of this fruit was adminictered to a few cases of chronic enteritis. The patients derived benefit after long oontinued nse. . The Hakims consider it as a mild intestinal stimulant and give it in ohronio disorders of the intestines.
4. Alpinia Chinensis (Alpina galanga)-Lesser galangal.

Natural order-Zingiberacem.
Vernacular namea-Tam., Ohitharathai ; Tel., Sanarashtram ; Mal., Chithrathai.
Hakims ascribe to this drug tonic, stomachic, carminative, stimulant and aphrodiniao properties. It is generally prescribed by vaidyans in combination with liquorioe, long pepper and tail-pepper in cases of bronchitis and as a stomaohic tonic. A decootion of this drug was tried ir several oases of bronchial catarrh with beneficial effect.

## 5. Agathi Grandiflora-

Natural order-Leguminosæ日.
Vernacular names-Tam., Akathi; Mal., Agathi ; Tel., Avisi.
The leaves of this plaut are said to be laxative, anti-bilions and tonic. A strong decoction of the leaves was tried in several cases of constipation with little or no effect. It is asid thate the juice of the flowers of this plant when blown into the nostrils causes copious discharge of flaid, thereby relieving the pain and sense of weight in nasal eatarrh and headaohe.
6. Aristolochia Bracteata-

Natural order-Arishtolochiacees.
Vernacular nemen-Tam., and Mal., Aduthinnaun palai ; Tel., Gadrithsigadapara.
This plant is used by Hindu Physicians on account of its bitter purgative and anthelmintis properties. Braised leaf mixed with castor oil is applied externally in obstinste cases of eczems of the lege in children. A decoction of the root 1 in 10 in doses of 1 to 2 oances was given three times a day to saspected cases of round worms followed by castor oil and was found to by generslly efficacious in expelling round worms.

## 7. Aristolochia Indica-

Nataral order-Aristolochiacex.

- Vernàcular Names-Tam., Peromarindu; Mal., Eswars mulla ; T'el., Eewaramulli.

In Tamil country, the vaid yans nse this drug in malarial ferers. The juice of the leave of the plant is said to be a epeoific antidote for cobra poisoning. The root is also nsed for th eame purpose. The powdered root is given in honey for lencoderme. A decoction of the ront of this flant was given to cases of malarial fever; the resuli wae unsatisfactory.

## 8. Amoora Rohitaka-

## Natural order-Melisceas.

Vernacular names-Tªm., Shem-maram; Mal., Shem-maram; Tel., Chawa manu.
This drag is said to have special effect on livor and apleen on account of its alterative properties. It is said to be useful in enfarged liver and spleen. In my last report I mentioned that, in the singie oase of enlarged spleen in which it was tried, it did not do any good. Since then this drug has been administered to cases of enlarged spleen and enlargement of liver of infants and the result was unsatisfactory.
9. Andropogon Mruricatus-

Natural order-Gramineæ.
Vernacolar names-Tam., Vettiver; Mal., Vilamioham; Tel., Vattiveru.
The roots of this plant are used in making fans and soreens known as casous tatties. A decootion of the roots is given as a cooling drink to quenoh thirst in fevers. 'This was given to several cases of fevers and was fonnd to possess the property of assuaging excessive thirst.

## - 10. Aplotaxis auriculata or Saussurea auriculata-

Natural order-Composites.
Vernaoular names-Tam., Koshtam ; Mal., Koshtam; Tol, Koshtam. .
Koshtam, the root of Aplotaxis aurioulata, enters into aeveral reoipes or presoriptions for cough, asthma, dyspopsia, skin diseases and ohronio rheumatism as it is said to possess stimulant antispasmodio and alterative properties. An infusion of the root was given to oases of ohronic .rheumatism as an alterative; the result was unsatisfactory.

## 11. Althas offcinalis-

Natural order-Malvaceos.
Vernacular names-Tukhmi-Khitmi (Hindustani),
An infusion of the flowern of this mallow was given to 'bases of bronohial oatarrh and brona - chitis, but no beneficial result was observed in any of the cases.
12. Boerhaavia difusa-

This drag whose synonym 'Sothaghni' stands for killer of dropsy is considered to be a sovereign remedy for dropsy. To verify what has bean stated iu my previous report, this drug was administered in the form of a liquid extraot in cases of chronic Bright's disease with general dropsy. It was found to be a good diuretio, the dropsy diminishing gradually with the inorease in the flow of arine.

## 13. Bryonia Scabrella-

Natural order-Oucurbitacem.
Vernacular names-Tam., Musimusikkayi ; Tel., Pot́tibudamu ; Mal, Mukkalpitam.
This drug enters into some of the compound preparations for ohronic diseases in whioh oough is a predominant symptom probably on aocount of its expeotorant properties. 'It was administered to cases of bronchitis and asthma but the action was found to bo slow and unsatisfaotory.

## 14. Corallocarpus Epiges or Bryonia Epigaea-

Natural order-Cucurbitacem.
Vernacular names-Tam., Akaeha-garudhan ; Tel., Nagadonda ; Mal.; Kadamba.
The root of this creeper is said to possess alterative and laxative properties. It is nsually given in ayphilitio rheumetism and later stages of dysentery. A deoootion of the powdered root was given to cases of chronic mucous enteritis and dysentery. The oases of mucous enteritis derived oonsiferable benefit from its use. The deooction did not do any good in cases of acute dy sentery.
15. Cabsia occidentalis-

Natural order-Luguminosm.
Vernacular names-Monnah-virai ; Tel., Kasindha; Mal., Ponnahviram.
The whole plant is purgative, alterative and expeotorant. The seeds are pargative. A decoction of the powdered seeds 1 in 10 was given in dosee of $\frac{1}{3}$ to 2 ounces to cases of constipation and found to aot as a mild purgative.

## 16. Cassia sophera-

Nataral order-Leguminosm.
${ }^{\text {V }}$ Vernacular names-Tam., Peria thagarai ; Mal., Ponnan thagarai ; Tel., Thanged u.
A decootion of the whole plant is said to be nseful in diminishing urine and also to act as an expeotorant. This decootion was administered to cases of aonte bronobitis and was found to .give relief.
17. Carthamme tinctorius-

Natural order-Compositm.
Vernavalar nameo-Tam., Uhendorak; Mal., Choodurakan ; TAl, Kmanubha.
A decoction ( 1 in 20 ) of the powdered seede wae adminintored to owee of conatipetion. The action was very mild and in majority of ceses it did not produce the deoired offoct.
18. Cassia Fistula-

Nataral order-Leguminoses.
Vernaouiar names - Tam., Chera-kondrakayee ; Mal., Konan ; Tel., Kondrakayoo.
The pulp contained in the pods of this tree hat long hoen oned medicinally both by the Hindu and Unani physicians as a oathartio. It is a favourite pargative drag presoribed by the Hakime and vaidyane.

A oonfection made up of the pulp (free from the soeds) with equal qnantity of ougar wae administeredin doses of 2 to 4 drachms to adulta and was fonnd to poseose matiefactory cotion as a purgative. It did not canse any irritation or diecomfort to the patienta.

## 19. Chirata-Andrographis Paniculata. 1

The properties of this drag have already been reported upon last year. A prepartion of this drug in the form of an essence was obtained from Bengal Chemical Worke, Caloutta and wae administered to a large number of patients as a bitter stomanhio tonic and doring convalesconco after malarial and other fevers. The essence prowoted appetite and the patiente felt atronger under its course.

## 20. Clitorea ternatea-

Nataral order-Legaminosm.
Vernacolar names-Tam., Kodi-kakkanam'; Mal., Shankbupushpam; Tel., Dintana.

The seeds are cathartio and the root diaretio. The powdered seede in combination with ginger powder were found to have laxative aotion. Some of the patiente complained of griping pain in the lower abdomen.
21. Chavica Roxburghi or Long Pepper (Root of) -

Natural order-Piperaceem.
Vernaoular namee-Tam., Tippili; Tel., Modi; Malayalam, Tippali-ver.
Thippali or dried immature fruite nf chavica roxbarghi and pippalimoola, the aliced root of the same plant, are largely used in Hindu medicine as stimulating expeotorante in chast affections aud as carminative and alterative in dyspepsia and mild forms of paralysia. Hakime attribute aphrodisiacal, diuretio and emmenagogue properties to them. They alno concider them as resolvent of enlarged liver and spleen. These drugs in the form of decoction were extensively used in aoute and ohronio bronchitis attended with cough and were found to give gradual relief in all such oases.
22. Ccesalpinia sappan (Sappan wood)-

Natural order-Leguminosw.
Vernacular names-Tam., Vartangi; Mal., Chappangam ; Tel, Bukkapu Chettu.
Sappan wood is largely ased as a dyeing agent and very large quantities are concumed in the preparation of gulal, the red powder with whioh Hindus coat themselves at the time of the holy festival: A decoction of the wood is asid to be very ureful in coring dysentery and diarrhcea. I have given it an extended trial and found to give relief in mild osses of dysentery and_diarrbcoa.
23. Coccinia Indica-(Cephalandra Indica).

Natural order-Cucarbitaeeae.
Vernacular names-Tam., Kovai ; Tel., Dondatiga or Kakidonda ; Mal., Kova.
The leaves of this plant are boiled in gingelly vil and applied externally in ringworm psoriasis, itch, eto. The oil is also nsed as an application for vplcers, and as an injeotion into chronio sinuses. Internally the decoction of the leaves and atem is said to be expectorant, antispasmodic and useful in bronchial catarrh and bronohitis. I have not found either in the oil or the decootion any of the properties mentioned above.
24. Cordaa Myau-

- Natural order-Boragineæ.
ohettu.
Demulcent, said to be useful in bronchisl affections and in irritation of the urinary passages. A decoction of the fruit was administered to cases of bronchitie with negative reanlt.

25. Cassia alata (Ringworm ehrub)-

Natural order-Leguminosae.
Vernaoular names-Tame, Sheema agathi; Mal., Sheema agathi ; Tel, Sheema avis.

The paste of the leaves was naed as an external applioation in reveral oases of ringworm of the body and was found to be efficacious in recent oases but in ohronic cases the drug failed tobring about a care.
26. Emblic myrabolans-

Natural order-Euphorbiacea.
Vernaoular names-Tam., Nellikayi; Mal., Nellikayi ; Tel., Usarikayi.
In my preliminary report, I have mentioned about this drag being one of the constituente of 'Triphala' or the three myrabolans which are employed in a large number of diseases both by Ayurvedio and Unani Physicians. This myrabolan is presoribed by them largely in dyspepsia and bilious headache.

Vaidyans ascribe cooling properties to it. In ohronic hoadaohe, bilionsness and in menta exoitement, wator in whioh these belerio myrabolans are boiled over night is used th following morning, for douching the head to produce cooling effeet on the brain. There is no doubt, head baths given in this manner for a number of daya produoes gradual lessening of the excoitement. But whether the effeet produoed is the reault of the myrabolans or the cold water, I am unable to aay. The moraba or preserve of the pulp of these myrabolans is generally used. by Hakims in palpitation of the heart, bilionsness and dyspepaia. In some of these onses the drug has been found to give relief. These myrabolans are oonsidered to possess refrigerant, diuretio and laxative properties. In Hindu houses, when the fruits are available in quantity $y_{r}$ they are made into piokles and eaten with food to stimulate the appetite.

## 27. Euphorbia neriifolia-

Nattural order-Euphorbiaoeae.
Vernaoular names-Tam., Hai-kalli ; Mal., Ilai-kalli ; Tel., Akujemudu.
The white milky juice of this plant is a purgative and expeetorant. For purgative action it is administered internally by soaking other purgatives in it io that by absorption of the juice, their purgative properties may beoome inoreased. A sucons consisting equal parts of the juiceof this plant and simple syrup was prepared and administered in doses of 10 to 20 minims three times a day in cases of asthima and was found to give relief to the fits of that dieease.

## 28. Eurycoma longifolia-

Natural order-Simarabeae.
Vernaoular names-Tam., Usi-thagarai ; Teli P Mal. P
This small plant is a nutive of the Malayan Peninsula. The root of this plant is said tobe a epecifio in malarial fever next only to quinine. A decootion of this drug 1 in 10 in $\frac{3}{3}$ to 1 ounce doses was administered to mild oases of malarial fever and was found to be useful in thoseсавея.
29. Erythrina indica-

Naiural order-Legaminae.
Vernacular names--Tam.,Kaliyana murukka ; Tel., Badithapu ohettr ; Mal, Kalyana. murukku.

The leaves and the bark of this plant are used as febrifuge. The leaves are orushed and applied to rheumatio jointa to relieve pain. The Tamil vaidyana use the juice of the leaves mixed with oastor oil for the oure of aconte or ohronio dysentery. Equal quantities of the juice of the leaves and oastor oil in drachm doses three times a day were given to about half a dozen. oases of acute dysentery, without any benefit.
30. Eugenia jambolans-

Natural order-Myrtaosese.
Vernaoular names-Tam., Naval ; Mal., Naval; Tel., Neredu,
The bark and the fruit of this plant are astringent. A: decootion of the bark and the confection of the fruits are said to be reeful in aocte and ohronio dyeentery. Several mild cases of dysentery were oured by the administration of the decootion, but in aoute and severe cases morepowerful remedies had to be substituted.
31. Fumaria parvifhra-

Natural order-Fumariaceas.
Vernacular names-Tam., Thura; Tel., Chatharasi.
This phant is said to possess the properties of taraxacum. It is used also as an alterative, aperient and antifebrile drug. Deoootions of the entire plant was given to osses of mild. -pyrexia and the result was unsatiofentory.
32. Hemsidetmene indicin (Baresaparilla)-

Netural order-Asolepirdecoe.<br>Vernacular nameo-Tam., Nanuari ; Mal, Nanmari ; Tel., Sugendhipala.

Saraesparilla is considered by vaidyans to possens blood purifying, alterative and tonio properties to considerable oxtent. A liquid extract of the drug wangiven en atovio in akin disesses and as an alterative in chronio rhenmatiem. The cotion was found to be very alow in the few cases that improved under it.
33. Holarrhena-antidyeentorico-

The propertiee of this drag have already been reported upon. Thia drag which in con sidered to be the principal medicine for dyeentery in Hindu medicine was given a further extended trial. In the dysentery of ohildren in doses of 15 to $\mathbf{3 0}$ drope and in that of edulte in doses of 1 to 2 drams , the liqnid extrect gave very eatiofactory result in almont overy cemes.
34. Hyesopus officinalu-

Natural order-Labiatae.
Vernacular namoe-Hindiutani-Zapha.
This is said to possese disphoretic, erpeotorant and stomaohic propertice and to be usoful in sathma, chronic bronchitis, smenorrhoes and sorethroat. A deocetion of the flowere of this plant from Persia was given in cases of asthma and ohronic bronchitis and foand to be a neeful remody in those complaints. (Vide notes in my first report for a onmpound preparation of the drug.)

## 35. Indigofora aspalathosdes -

Natural order-Legaminoene.
Vernaoular namea-Tam., Shivanar vembu; Mal.; Manali.
This is one of the important ingredients of the apeoific oil for ayphilitio and other otin diseases. A decoction of the entire plant is given as an altarative in eecondary ayphilis, peoriacis eto.; on a trial of the decoction, I did not find it to posese any of the propertiee attribated to it.
36. Luffa amara-

> Natural order-Cucarbitacese.
> Vernacular names-Mal., Athanga ; Tel., Chëdhu beers ; Tam., peybeeraka.

The entire plant is said to possess laxative and purgative proparties and is also mid to be useful in skin diseases and asthma. It is said to be an antidote to make-poisoning. A de000tion of 1 in 10 was administered to cases of asthms and was found to give reliof in that diseace by producing copions expectoration
37. Michelia champaca-

Natural order-Magnoliaceae.
Vernaonlar nameo--Tam., Shampangi ; Tel., Sampangi ; Mal., Champakim:
The bark of this tree is said to possess alterative, stomachic and emmenagogue propertien. A decoction of the bark 1 in 20 was tried in half to 1 onnce doses in mild cases of ohronio gastritis. After using it for several days, the patients obtained considerable relief from the pain and discomfort in the epigastrinm with which they were tronbled bot none of the asses was completely cared. ${ }^{\text {• }}$

## 38. Mesua Ferrea-

Natural order-Guttiferai.
Vernaeular names-Tam., Cheru-naggapa; Tel., Naga kesara; Mal, NagaChambagam.

The unripe fruits of this plant are aromatic and endorifle. The flower bade are used in dysentery. A syrup of flower buds 1 in 10 was used in acute cases of dysentery in the out-patient department; mild cases were cured by ite ase bat in very acute and severe ceses, it was fonnd to be inefficacious.
39. Melia asadirachta-

A further trial was given to neem in the form of an essence in doses varying from 1 to 10 drops in water in chronic skin diseases such as itch, boils, eczoma, the drug improved the general condition of the patients and thereby indirectly assisted other methods of treatments sedopted in those diseases.
40. Mallotus philippensis-

Natural order-Euphorbiaceas.
Vernacular namea-Tam, Kopila-podi ; Mal., Poonagam; Tel., Benduruppa.
-This granular brick red powder oonsisting of small glands covering the ripe frait, is said to be an anthelmintio in cases of thread and round worms and a pargative. It was fried in the form of a liquid extract in doses of 1 to 3 fluid drachme every 3 hours until three doses were administered. A purgative of castor oil was given thereafter. It wea found to be efficucious in expelling roand and thread worms.*

## 41. Malva sylcestris-

Natural order-Malvaces.
. Vernaoular names-Persi, Kitmii-kuchak.
This mallow is said to possess muoilaginous, demulcent and cooling properties. It is veed in affections of the maoons membrane of the pulmonary tract and of the uninery bladder. It was given a fair trial in bronchial catarrh and bronchitis but the result was disappointing.
42. Melia asadarach-

Natural order-Meliacess.
Vernacular names-Tam., Malai-veppam ; Mal., Malai-vemba; Tel., Kondavepaohettu.

A decoction of the bark of this jungle neem was used as a bitter tonic and anti-periodio in dyspepsia and malarial fevers respectively. It was found to be an efficient bitter tonic bat had no anti-malarial properties.
43. Nelumbium speciosum-

Natural order-Nymphceвoea,
Vernacular names-Tam., Thamarai ; Tel., Thamara; Mal., Thámarapu.
The seeds of this aquatic shrab are said to be demulcent and nutrient. The flowers are said to be oooling, astringent, and expectorant. A syrup of the dried flowers was used in $\frac{1}{2}$ ounce doses and was found to be effioacious in curing mild cases of dysentery.

## 44. Oldenlandia herbaceaz-

Natural order-Rubiaceæ.
In addition to a liquid extract, a deooction of this drug 1 in 10 was tried in mildoases -- of malarial fever of a low remittent type and was found to do good in a few of those oases. 'This drug entexs into the combination of geveral decoctions for fevers mentioned in Sanskrit medical works.
45. Oldenlandia $\dot{U}_{m b e l l a t a-~}^{\text {- }}$

Natural order-Rubiacean.
Vernacular namea-Mal., Chaya-ver. Tam., Imbura ver or ohiru ver; Tel., Chiru-vera.

The leaves and root of this plant are considered to possess strong expeotorant property and are preseribed in ceees of bronchial catarrh, bronohitis and asthma. A decootion of the root 1 in 10 was given in doses of $\frac{1}{2}$ to 1 ounce a da'y to cases of bronchitis and asthma. In the former disease, the patients were cured after a few days use of the decootion but in the latter, the drug gave only temporary relief.

## 46. Odina rrodier-

Natural order-Anacardiaceae.
Vernaoular names-Tam., Odiyamaram ; Mal., Udhimaram ; Tel., Oddimanu. .
The bark of this tree is very strongly astringent and is rocommended for dysentery and diarrhoea. A decoction of the bark 1 in 10 was administered in one ounoe doses to cases of diarrhos and dysentery and the result was very unsatisfactory.

## 47. Pistio stratioites-

Natural order-Ároidæe.
.Vernaonlar names-Tam., Akasa Tamarai ; Tel., Anthara thamara; Mal., Akasathamarai

This drug is reoommended for external applioation and internal use in weeping aloers, eozema and leprous ulcers. An oil was prepared by boiling the juice of the lenves in cocosnat oil and used externally in chronio skin diseases. Relief was obtsined in a number af asses.

## 48. Psoralia corylifolia -

## Natural order-Leguminosm.

Vernaoular names-Tam., Karpokkarishi ; Tel., Bawuohee; Mal., Karpokkari.'
The seeds of this plant are used by the vaidyans for oure of leucoderma and also to give relief in leprosy. A tinoture und an oleate of Bawahee are sold by druggists in the shops. Powdered seeds were given internally to a case of leucoderma along with the application of oleate of Bawuchee to the affected parts. In the course of a few days the patches showed signs of redness from congestion but the gastrointestinal tract was so muoh irritated that the patient: refosed to andergo further treatment. I have administered the tinoture along with the external application of Bawuchee in a few cases of leacoderma withont any benefit. A componad ointment of the powdered seede of psoralia oorylifolia and the seeds of oassia tora with lime juioe was tried in cases of ringworm with marked beneficial results.

## 49. Pinus Deodara-

Natural order-Coniferm.
Vernacnlar names-Tam.; Devaçaran ; Mal., Devadaram ; Tel.,Devadara.
It is considered to possses diaphoretio, diuretic and carminative propertiea and to be ueeful in fevera, flatulence and urinary disorders. A deooction of this drag was admiaistered "to osses of ehronic fevers and the result was nusatisfactory:

## 50. Plantago ispagkula-

Natural order-Plantaginese.
Fernacalar namee-Tam, Iekobverai ; Tel., Ispagala-rithala. Mal., Iaphagul.
Isphagal eoeds have demuloent and diaretio propertion and are generally used in inflammatory conditions of the mucone membrane of gastro-inteotinal and genito-urinary treoteThey are generally given in the water of tender cocomnuta. The moede wore given in the form of an infusion in oasee of apecifio urethritio and found to relieve oonsiderably the burning and irritation accompanying the disesee.

## 51. Rhus succedarea-

Natural order-Anaoardiacem.
Vernacular nameo-Tam., Karkateabringi; Mal., Karkataringi; Tel., Karkatarhringi.

Karkatashringi or what is known in Tamil an karkspu conaiste of thorn-like erorecoences oansed by inseote on the branohes of Rhus succedanea. The drug is considered to be tonio, expectorant, and astringent. It was given to infants suffering from diarrhoes and dyeentory, and was foond to be an efficient astringent in suoh cases. Many casen were cured by ite administration.

## 52. Saraca Imtica-

> Nataral order-Legaminosm.

Verneonlar namea-Tam., Ashogam; Tel., Asoka; Mal., Asehogam. .
This is considered to be an excellent uterine tonio by the rydians and it is apeoially recommended in menorrhagis and leacorrhoes. It is cuppoeed to aot an a prophylaotio against all uterine disorders. A liquid extract of the bark of this plant whioh is atrongly astringent was administered to cases of menorrhagia and found to do oonsiderable good. The aotion was alow. It took on an average three days to produce the desired effect.

## 53. Scindapsus pertusa-

Natatural order-Aroidem.
Vernacular names-Tam., Atti-tippli ; Mal., Atti-tippili, Tel., Gajja-pippali.
The fruit of this plant is considered to be carminative, stimulant and to be useful is diseases cansed by the derangement of phlegm homour suoh es disrrhoea, asthma. A deocotion, of the sliced fruit of this plant was tried in cases of asthme and found to act as an expeotorant:it did not diminish the severity of the fit.

## 54. Smilax Chinensis-

Natural order-Smilaces.
Vernacular names.-Tam., Paranki-pattai ; Mal., China-paiva; Tel., ParangiChekkai:

Ther use-Diaphoretio, atimulant and alterative ; useful in rhenmatism, epilepsy, sorofala and tertiary ayphilis.

The decoetion of this drug in doses of 1 to 1 ounce was tried in cases of chronio and: snbacute rheumatism with unsatisfactory resulta.
55. Soymida febrifuga -

Natural order-Melizoem.
Vernaoular names-Tam, Shemmaram; Tel, Somida-manu.
The .bark of this tree is said to be a bitter tonio and a good anti-malarial like cinchona. A decoction of the bark 1 in 20 was given in one ounce doses three times a day in askes of malarial fever and found to be beneficial. The action was not only very alow but very inferior to that of the alkaloids of cinchona.
56. Sphaeranthus Hirtrus or Indicus-

Natural order-Compositæ.
Vernacular names-Tam., Kottak Korandai ; Tel., Bodasoram ; Mal. Adakkamanian.
This small plant was used in the form of a decootion as a diuretio in urethritis. Theseeds of the plant are said to be anthelmintic. The paste of the root bark when applied locally is said to give relief, in cases of bleeding piles. This drug was adminintered in the form of decootion in cases of specific urethritis. The resalt was unsatiofaotory.
57. Solanum ferox-

Natural order-Solanacem.
Vernacular namea-Tam.; Anà-ohandai; Mal., Vellothavazhatina; Tel., Molakkayi.
This is one of the ingredients of Dasamoola and is generally presoribed for fevers in which bile hamour is at fanlt. A decoction of the ontire plant was administered to cases of ${ }^{-}$ different varieties of fevers; the drug was not found to possese any diaphoretio or antipyretioaction.

## 58. Bolanum trilobatum or trifoleatum-

- Natural order-Solannceas.

Vernacular namea-Tam., Tutuvelai; Tel., Mandlamashti; Mal., Tutavalam.
The leaves, seeds and flowers of this plant are said to be useful in the form of a decoction in relieving the cough of consamption and bronchitis. It enters into the composition of compound medicines for okronic hronchitis. A decoction of the entire plant 1 in 10 was adminigtered to oases of aoute and ohronic bronchitis and was found to be useful in those diseases. This is considered to be a home remedy for all kinds of oough.

## 59. Solanum Indicum-Solanam. Natural order-Solanacem.

Vernacn lar namea.-Tam., Karimulli; Tel., Thella mallaka; Mal.; Chera-ohondaoheruvazhudhena.

This is one of the ingredients of the ten roots (dasamoola). It is eaid to possess diaphoretio, diuretic and expectorant properties. Its root enters into the composition of several compound decoctions for fevers, cough and dysuria. A decoction of the root of this plant was given to cases of bronchitis attended with fever ; the result wss unsatisfactory.
60. Solanum jacquini-

Natural order-Solanácem.
Vernaoular names-Tam., Kandapkathiri; Mal., Kantakari; Tel., Nela-mulaka.
This-drug is said to be useful in oough, asthma, sore-throat eto. A deoootion of the entire plant was administered to cases of aethma and bronehitis without any appreciable benefit.

## 61. Terminalia Arjuna-

The bark of this tree is considered invaluable in heart diseases, where combined stimulant: and tonic action is necessary. It is also recommended in dropsy arising from heart troubles.e I have reported unfavourably about the effiosoy of this drug in heart cases in my-previous report. A further trial was given to this drug in the form of a liquid extract in six osses of valrular diseases of the heart with failure of compensation. The patients did not derive any benefit from its use.
62. Tinospora coraifolia-

Since submitting my last report, this drag was given another fair trial in the form of a liquid extract in everal oases of malarial fever both in ohildren and adulta. Its action was found to be very slow. The drug had to be administered for several days before even mild osses were cured. In ohronic casea, it did not do any good, although it is a reputed medioine in the Hindu Pharmacopceia for all fevers.
63. Tephrosia purpurea-

Natural order-Leguminose.
Vernacular namea-Tam., Kollukkayi-velai ; Tel., Vempali.; Mal., Kozhinhil.
This drag is said to be useful in oough and in derangement of the kidneys. A deoootion: of the drug 1 in 10 was administered in one ounce doses to oases of Bright's disease with dropsy, and found to possess diuretio properties in a mild degree.
64. Tylophora asthmatica (Country Ipeoacuanha) -

Natural order-Agolepiadero.
Vernacular namẹs.一Tam., Nayi palai ; Mal., Valli pala; Tel.; Veri-pala.
The leaves and the root bark of this plant are said to possess emetio, diaphnretio, and expectorant properties just like the ipecacuanha of the Britioh Pharmacopcoia. Its nse as a aubstitute for ipecao in the treatment of dysentery and its value as an emetio were well known to the early Europesn practitioners of India. A decoction of the leaves 1 in 10 and infusion of the root bark are generally used for thesef purposes. I have used this drag in cases of dysentery, asthma and bronchitis and found it to give satisfactory results in those diseases.

## 65. Tragia cannabina-

Natural ordar-Enphorbiaoem.
Vernacular names-Tam, Cheru kanjura; Mal., Ohera kodithuva; TeL, Doolagoandi:
The root of this plant has diaphoretic property and is therefore given in fevers to oause perspiration. A deonotion of this root 1 in 10 was foand to be usefol in relieving bronchitis and the attendant fever.
66. Vernonia anthelmintica-

Natural order-Compositer.
Vernacular names-Tam., Kattu-shiragam; Mal., Katu-jeerakam; Tel.. Adivijeelakara.

To confirm what I have stated in my previous report, a good asmple of this drag was obtaized from Zandu Pharmaoy, Bombay, and given a fair trial in cases of round worms, in doses of 20 to 60 grains ; the result was completely esatisfactory.

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# APPENDIX 11. <br> Compound drugs investigabod. 

## Aximital.

1. Abahya Arithtam-

Composition-vide presoription No. 1.
Dose-f to 1 ounce.
Ther. use-In piles, indigestion, asoites, enlarged apleen and habitual conatipation.
This fermented oompound decoction of ohebulio myrabolans was given to caees of atonic dyspepsia and conetipation, the effeot wae very slow and the reealt was not antisfoctory.
2. Pippali Arishta-

Composition-vide presaription No. 2.
Dose $-\frac{1}{2}$ to 2 tolas twice a day.
Ther. nse-Useful in aothma, cough and piles, eto.
This fermentel decootion was administered to patiente suffering from bronohitie and asthme and found to give them relief very slowly.
3. Kanaka Asada-

Composition-vide presoription No. 8.
Dose- $\frac{1}{8}$ to 2 tolas twice a day after meals.

- Ther. nee-Expectorant and antispasmodic; said to be useful in acthme and phthisis.

Asthmatio patients generaily derived much benefit from ita use for a week or two.
4. Kumari Asava (fermented deooction of aloe vera)-

Composition-vide prescription No. 4.
Dose- $\frac{1}{1}$ to 2 tolas twioe a day aftar meale.
Ther, use-Alterative and antispasmodic ; said to be usefnl in asthme, colio, fistubnce and chronic constipation.

This asava containing about 70 -drugs was administered to several caces of anthmand was found to produce very benefivial effeot on the disease.

## Afalreas, Grithamg, Syrups and Confrections.

5. 4 soka Ghritham-

Composition-vide prescription No. 5.
Dose- to 1 tola to be taken twice a day.
Ther. use-Uneful in leucorrhces and menorrhagia.
The bark of this drug is reputed in ayurveda to be a specific in all uterine affeotions especially in menorrhagia. This compound ghee was administered to eeveral cases of menorrbsgia with marked beneficial effect in cheoking hæmorrhage in caees of menorrhagia and metrorrhagia.

It was also given in cases of lencorricoes with very satisfactory results.
6. Annosh-duroo-

Composition-vide prescription No. 6.
Dose- $\frac{1}{3}$ to $\frac{8}{3}$ tola two or three times a day.
Ther. use-_Said to improve digestion.
This confection was given to cases of atonic dyspepsis with loss of appetite and was fonnd to do good to those cases.
7. Agasthya Rasayanam-

Composition (vide prescription No. 7).
Dose-1 to 2 tolas twice a day or two myrabolans daily.
Ther, use- Useful in general debility, ohronic bronohitis; oongh, consumption, eto.
This confection is said to have been prepared first by saint Agasthya-honce it name ; it was administered to long-standing cases of obronic bronahitis assooisted with asthmas and emphysems and was fonnd to be benefioial in all suoh cases. There was ricarked dgcreses in the cough and hard breathing and the patients generaily gained atrength.
8. Oonfection Jhaiphal (woodfcrdia floribanda)-
$\therefore$ Oomposition-vide prescription No. 8.
Dose-1 to 2 drs.
Ther. use-Stamalant and astringent.
This compound confeotion gave satisfactory result in dysentery. It is said to be useful in chiecking hamorrhages and discharges like menorrhagis and lencorrhoea.
9. Dhatryavaleha (componnd confeotion of Emblic myrabolans) -

Composition-Vide preacription No. 9 .
'Doee-f to 1 tols to be taken with milk twice a day.
Ther, use-stimulant and expectorant; said to be useful in cough and bronohitio.

This oonfection was administered to asses of ohronio bronohitis and was found to give relief.
10. Dava-ul-musk-

Composition-vide presoription No. 10.
Vose--t to $\frac{1}{4}$ tola to be taken twice a day with milk.
Ther. use-Gives strength to the cardiac musoles, useful in functional affections of the heartr Also strengthens the central nervous system. :

This confection whose important ingredients are pearls, amber, silk-cocoons, silver leaves, sand musk is no donbt a nervine tonio. This was given to a patient suffering from neurasthenia in $\frac{1}{4}$ tola doses. It did give tone to the nerges of the patient bat the effeet was very gradual.
11. Gulguls thikthakam-

Composition-vide presoription No. 11.
Dose- $\frac{1}{3}$ to $I$ ounce.
Ther. use- Useful in leprosy and otber akin diseases, sorofula, piles, diabetes, conaumption, ozena, heart disease, anæmis, asthma, etc.

This medicatod ghee was administered to cases of ohronio psoriasia and the patohes gradually disappeared.

## 12. Jawarish-ai-amela-

Composition-vide prescription No. 12.
Dose- $\frac{1}{4}$ to $\frac{3}{3}$ tola two or three times a day.
Ther. use--Said to improve digestion ; useful in stomatitis ; removes exoess of heat From the body.

This confection, whose chief ingredient is phyllanthus omblica, is said to be nseful in diseases of the digestive syatem such as stomatitis, gastritis, atonio dyspepsia. In all these conditions, the confection was found to give relief and to generally improve the appetite.
13. Jawarishai sulaimani-.

Composition-vide presoription No. 13.
Dose- $\frac{1}{3}$ to $\frac{8}{4}$ tola three times a day.
Ther. use - Useful in diarrhoea, dyspepsia, indigestion; eto.
This confection whose chief ingredients are carminative drugs like cumin seeds, menthm -antivam, pepper, cinnamon and ginger is said to do good in diarrhcea, djspepsia, heart burn, indigestion and vomiting. This was given as an appetizer and for improving digestion in -aases of atonio dyspepsia. In these oases, it aoted like the carminative mixture of the hospitals.
14.' Jawarishai-Thurush-

Composition-vide presoription!No. 14.
Dose- - $\frac{1}{4}$ to $\frac{1}{2}$ tola twice a day.
Ther. use -Usaful in cases of indigestion due to aoidity of the stomadh.
This confection was found useful in giving relief in ohronio gastritis and in atonio dys. pepsia. It inoreased appetite to a marked degree.
15. Kantakari Avaleha (compound confeotion of solanum zantiooarpam)-

Composition-vide presoription No. 15.
Dose- $\frac{1}{2}$ to 2 tolas to be taken with milk.
Ther. nse-~Expeotorant, dinretio and aperient.
This confection was administered to patients auffering from asthma and bronobitis and found to be very neuful in those diseases.

## 16. Khamirai Abrasham-

Oomposition-vide prescription No. 16.
Dose- $\frac{1}{4}$ to $\frac{1}{2}$ tola.
Ther, uso-Useful in all cardiac affeotions. Palpitation is effeotively relieved. It is also a good neivinettonio.

From the nature of the ingredients (gold leaf, silver leaf, pearl, raby; silk-cocoons, valerian, etc.) it can easily be inferred that this compound confoction mast be a powerful nervine tonio. It was given to cases of nervous palpitation. Although the general condition of the patients improved, the confection did not do any good to palpitation.

## 17. Laboobai Sagheer-

Composition-vide prescription No. 17.
Dose $-\frac{1}{2}$ to 1 tola with two or three ounoes of mills.
Ther. use--Useful in polyuria due to kidney affection, inoreases and thickens the semen. Builds up the nervons tisisue and also the, kidney tissue.

This confeotion was given to patients suffering from rieurasthenia and nervous debility, the patients did not derive any benefit even after protraoted nse.
18. Mamsa sarpishi-

Composition-vide presaription No. 18:
Dose- to to ounce.

- Ther. uso-In insanity, epilepoy and lethargy.

Thie wan administered to a oneo of epilepoy for anmber of dayn; the pationt did not. derive any benafit.
19. Magoonai Musafi-

Compoeition-vide presaription No. 19.
Dose-f to $\frac{y}{4}$ tola twioe a day.
Ther. ose-Parifies the hlood, relieves conatipation, ouree obronio alcers and other skin affeotions.

This was tried in hahitual constipation and skin diseases like peoriasis and itoh. It did not do any good in those affections.

## 20. Majoonai sual-

Composition-vide presoription No. 20.
Done- $\frac{1}{3}$ to 1 tola twice a day.
Ther. use-Said to be an expeotorant and uneful in bronobitio.
This confection was found usefal in cases of bronohial oatarrh and mild casoes of bronahitis.
21. Majoonai malarial fever-

Oomposition-ride presoription No. 21.
Dose-1 to $\frac{1}{2}$ tola twioe a day.
Ther. use-Said to be useful in malaria and by long continned uee maid to bring about reduction of enlarged spleen.

This oonfection was tried in several oasas of malarial fever, the patients did not derive benefit from ite ase.
22. Mahattktha Ghritham-

Composition-vide prescription No. 22.
Dose- $\frac{1}{2}$ to 2 tolas to be taken twioe a day.
Ther: yse-Bitter tonio and alierative, useful in ohronio akin diseasea and leprosy.
This ghritham was given to sases of chronio psoriasis. , Patienta derived beneflt from ite use ; the patches became thin and gradually disappeared.

## 23. Majumi---tel-

Composition-vide prescription Nó. 28.
Dose-1 to 4 drs. twice or thrice a day.
Ther. use-Useful in dyepepsia, oongestion of liver and anorexia.
The bark of prunus pudum is said to possess bitter tonio and sedative properties. The componnd oonfeotion majumi-e-tel whose ohief ingredionts are pranas pudum, valerian, nutmeg, long pepper, cubebs, oto., was administered to oases of painful dyspepsia and was found to be ansatigfactory.
24. Madhusnuhi Rasayanam-

Composition-vide presoription No. 24.
Dose- $\frac{1}{2}$ to 1 tola.in milk.
Ther. use - Restores loss of appetite and taste, useful in consumption, diabeten, abdominal disorders, akin diseases, nervous debility, etc.

This rasayanam was administered to coses of chronic phorissis. After continned aee, the patohes became thin and gradually disappeared.
25. Neelini Ghritham-

Composition-vide prescription No. 25.
Dose- $\frac{1}{2}$ to 1 oance.
Ther. use-Useful in colic, abdominal pains, enlarged apleen, acoites, eta.
This was given to cases of dysmenorrhcea, the result was unsatisfaotory.
26. Pánchagaviya Ghritham-

Composition-vide presoription No. 26.
Dове- $-\frac{1}{2}$ to 1 onnce.
Ther. use-In insanity, epilepsy and lethargy.
This medicated ghee was given to a oase of epilepoy for a few weeks ; there was not the slightest improvement noticed.
27. Syrupus Hyseopus officinalis (oompoind syrup of zupha)-

Oomposition-vide prescription No. 27.
Dose- $\frac{1}{3}$ to 1 ounce twice a day.
Ther. use-Carminative, diaphoretio and emmenagogne.
This syrup was administered to cases of dyspepsia, chronia bronchitin, and anthma. It gave relief to those casses. It is also eaid to be asefal in amenorrhoes. On trial it did not. give satiafactory result in this disorder.

## 28. Syı up Bratmi-

Composition-vide preseription No. 28.
Dose- 1 to 2 drs. twice after meals.
Ther. use-Useful in hysteria, epilepsy, insanity and mental derangementa, alsoneeful in hoarseness and for improving the voice.

This drug was given a farther trial in the form of syrup to cases of epilepsy ; the intervala of the cocourrence of fits became longer after its continued nse but in no oase there was complete oure (vide herpestis monnieria in report II).

## Bensmaks.

29. Abrak bhasmam (talo oaloined 1,000 times) -Composition-vide preseription No. 29.
Dose-2 to 6 grains to be taken twice a day in horey.
Ther. use-Useful in phthisis and debility of old age, gives strength to the body.
This was given to two cases of diabetes and found to give temporary relief; the quantity of sugar gradually deoreased under its use; but in buth cases there never was complete disappearanoe of the sugar from the arine.
30. Naga bhasmum (calcined zino).

Composition-vide presoription No. 30.
Dose $-\frac{1}{2}$ to 2 grains.
Ther, use-Said to be usefal in urinary disorders.
It was given to osses of gonorrhoes ; the result was unsatisfactory.
31. Thalaka bhäsmam (oaloined yellow orpiment)-

- Oomposition-vide presoription No. 31.
- Dose- $\frac{2}{3}$ to 2 grains.
- Ther. nee-Oseful in oough bronohitis añd fever. This bhasmam was given to cases of brondhitis attended with fever and was found to have beneficial effeot.

32. Sringa bhasmam-

Composition-vide presoription No. 32.
Dose-6 to 12 grains.
Ther nse-Useful in gonorrhoes and urethritis.
'This bhasmam prepared out of hart's horn is said to have a sedative and soothing effect on the inflamed mucous membrane of the urethra. It was tried in cases of specifio urethritisbut the effeot was disappointing.
33. Vanga bhasmam-;

Composition-vide prescription No. 33.
Dose-2 to 6 grains.

- Ther. use-In gonorrhcea, caloulus and other ürinary dieeases.

This preparation was found to bring ubout a cure in aonte specific urethritis. There is no doubt from what I have-seen that in aoute gonorrhoea it has the power of destroying gonocooci when internally administered.
34. Yesada bhasmam-

Composition-vide presoription No. 34.
Dose-1 to 3 graina.
Thor. use-Dyspepsia, stomachaohe and urinary diseases.
Thie bhasmam, which is said to have been prepared from zinc, was given in two cases of ohronio gastritis and was found to give relief to the symptoms in both those oases.
$\bullet$

## Ceurname.

35. Bhoonimbadi churna"(compound powder of Chirata, Piororrhiza, eto.) -

Composition-vide presaription No. 35.
Dose-20 to 60 grains to be taken three times a day.
Ther, use-Bitter tonic, antiperiodic and gastric stimulant.
This compound powder was administered to cases of chronic diarrhoea, dysentery, ehronio gastritis and as a stomachio tonio to oases of anorexia after fevers. It was found useful in these diseases but the aotion was very slow.
.36. Chaturooshana churna-
Composition-vide presoription No. 36.
Dose-10 to 60 grains twioe a day..
Ther. use-Said to be useful in colio, and flatulence; cough and ooryza.
This is a compound preparation containing chavioa roz-burghi, piper nigram, dry ginger and root of chavios rox burghi. This was given to patients with flatulence and intestina colio and was found to be useful in those cases.

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37. Jatrpaladhy ehwornan (componnd powder of Nutmeg)-

Composition-vide preeaription No. 87.
Dose- 12 to 24 grains twice a day in honey.
Ther, nee-This powder is eaid to be neeful in hoadeche, athma, colic, neuralgia, soute mania, menorrhagia and dyemenorthoes.

It was administersd to cases of asthma, lumbago and menorrbagis and was found to .yield eatisfactory results.
38. Katphaladhi churnam-

Composition-vide prescription No. 88.
Dose- $\frac{1}{2}$ to 1 dram twice a day in honey.
Ther. use-Stimulant, astringent and diaphoretic; ueaful in fevere, diarrhoes and dysentery.

This powder was given to cases of dyeentery and the patienta derived beneft trom ita un.

> 39. Kapithashtak chwrnam-
> Composition-vide presoription No. 89.
> Dose- 10 to 40 graine to be taken before meale with water.
> Ther. use-Said, to act as a good astringent, atomachio and atimulant.

This compound preparation was found useful in ante dysentery and diarrhoen.
40. Madanadhivaman (componnd powder of Randia Dumetornm).

Composition-vide presoription No. 40.
Dose-20 to 60 grains as an emetio, 5 to 15 grains as an expectorant.
Ther. nso-Expectorant and ometio; maid to be raceful in bronobitio and ohent
affections.
The fruit of Rendia Dumetoram is one of the prinoipal emetios in the Indisn Pharmocoposia. This compound powder was given as an emetio in acute cases of bronobitis and aathma and by prodaoing emesis, it gave muoh relief in aonte bronobitis and asthma. The powder has sliso strongly marked expectorant properties.
41. Pulv. Smilaxy Offcinalis Co. (Anti-rheamatio nnani powder)-

Composition-vide prescription No. 41.
Dose- 4 tola to be taken twioe a day in cold water.
Ther. nee-Said to be geeful in rheamatism and syphilis and is concidered a good blood purifier.

This pawder was tried in cases of chronic rhenmatism without any beneft.
42. Narisimha churnam (compoand powder of the three myrabolang, the three acrids, eto.)-Oomposition-vide prescription No. 42.
Dose-10 to 40 grains twice a day in honey.
Ther. use-This powder is said to possess etimulant, tonic and alterstive propertien ; said to be nseful in sexual debility, nearalgia and dyspepeia.

It was administered to cases of myalgia and atonic dyepepsia and wae found to give ralief.
43. Pushyanuga churnam-

Oomposition-vide prescription No. 43.
Dose-20 to 60 grains twice a day.
Ther. use-Alterative, tonic and astringent.
This compound powder was given to several cases of menorrhagia and leucorrhoea and generally found to give relief in such cases.
44. Pancha Kola churnam-

Composition-vide prescription No. 44.
Dose- 10 to 30 grains twice a day.
Ther. nee-Said to be a good appetizer; used in dyspepsia, cough, flatulence and enlarged spleen.

This compound powder which is considered to be a good appetizer, expectorant and antispasmodio, was tried in cases of atonic dyspepsia, bronchial catarrh and bronchitis and wae found to give relief gradually in those cases.
45. Panchanimba churnam-

Composition-vide prescription No. 45.
Dose- 5 to 20 grains thrice a day.
Ther. use-Said to be useful in malarial fever during convalescences.
This compound powder is said to be a good tonio and is given to patients convalescing from malarial fever. This powder not only increseed the appetite of the patiente bat also acted an a general tonic.

## 46. Saffu-fai-siah-

Oomposition-vide presoription No. 46.
Dose-5 to 10 grains in honey twioe a day.
Ther. use-Said to be useful in dyeentery.
This compound powder proved efficaious in oases of acute dysentery.
47. Shringyadhi churnam (compound powder of Rhas snccedanea)-

Composition-vide presoription No. 47.
-Dose-1 to 4 grains in honey three times a day.
Ther. use-Gastrio stimulant, astringent and alterative ; useful in infantile diarrhoea, bronchitis and gastro-intestinal troubles during teething.

This powder was administered to infants suffering from diarrhoea resulting from teething and other causes and to infants with bronchial troubles. Many of the little ones were yery muoh benefited by it.
48. Suranadhi churnam-

Composition-vide presoription No. 48.
Dose-10 to 30 grains twice a day.
Ther. use-Said to be useful in piles and dysentery.
This powder did not do the slightest good to oases of dysentery.
49. Shadushana churnam (oompound powder of six acrids and pepper)-

Composition-vide presoription No. 49.
Dose- 10 to 30 grains thrice a day.
Ther. ueo-Said to be useful as an appetizer and in flatulence.
This compound powder was found ueeful in flatulence and intestinal colio, also in bronohial and nasal catarrh.
50. Vaishavanar churnam (compound powder of Saindhava salt No, 2)-

Composition-vide prescriptior No. 50.
Dose-20 to 60 grains to be taken three times a day.
Ther. use-Gastric stimulant and carminative.
This compound powder has the same composition as the one below (51) and also possesses similar properties. It was used as a carminative in cases of indigestion, loss of appetite and flatalent dyspepsia with eruatuation and found to do good to sach disorders.
51. Vqdavanal churnam (compound powder of Saindhava salt No. 1)-

Composition-vide presoription No. 51.
Dose- 10 to 40 grains to be taken thrice a day:
Ther. use-A perient, alterative and expectorant, useful in gastritis, loss of appetite and chest affeotions with cough.
. This was given to patients with chronio gastritis and was found to allegiate their symptoms and to produce a return of sppetite.

## Drcoctions or ouaths.

O.D. $=$ Compound decocticns.
52. Bharangyadhi kashayam-

Composition-vide presoription No. 52.
Dose-1 to 3 ounces three times a day.
Ther. use-Said to be useful in asthma and bronchitis.
In Hindu medioine this decootion whose principal ingredients are -olerodendron serrata, justioia adhatoda, tinospora cordifolia is extolled as a remedy in attaoks of severe asthma. It bas to be administered with powdered pepper. On trial, it was found to give relief to asthma -ases, after its continued administration for 2 or 3 days.
03. Calatropis gigantea (C.D.)-

Composition-vide presoription No. 53.
Dose- $\frac{1}{2}$ to 1 ounce twice a day.
Ther. uve-It is considered to be an aiterative and expectorant; said to be useful in aoute inflammation of the respiratory tract.

It was found to be efficooious in mild cases of bronchitis and induenza.
54. Kalingakuds (C.D.)-

Composition-vide presoription No. 54.
Dose- $\frac{1}{2}$ to 1 ounoe twice or thrice a day.
Ther. use-Bitter tonic, anti-periodio; said to be useful in fevers espeoially so in malarial fevers.

This compound decoction was given in ounce doses to oases of malarial fevers but the -aotion was very mild and not satisfactory.
55. Terminalia arjuna (C.D.)-

Composition-vide preeoription No. 35.
Dose-f to 1 ounce twice a day.
Ther. nee-lt is considered to be an astringont and tonic.
This decoction prepared from the bark of Terminalia Arjuna was tried in half a dozen casceof valvular diseases of the heart but it did not appear to posesee the propertiee attributed to it (vide notes noder extract terminalia arjuns liquid).
56. Dasamoola Panchakoladhi kashayam -

Composition-vide presoription No. 56.
Dose-1. to 2 ounces three times a tiay.
Ther. nse-Said to be useful in ascites.
No benefit was derived in asciteo.
57. Pathyadhi quath (compound decoction of Chebulio Myrabolane).

Composition-vide prescription No. 57.
Dose- to 1 onnce three times a day.
Ther. use--Bitter tonio and antiperiodic, useful in dyepepeis febrile oonditions and in hemiorania.
-This deocotion was given to patients during convalescence after fevers and was found to act as a bitter tonic in such cases. In three oases of hemiorania in which it. was tried, the patients did not derive any benefit.
58. Sahacharadhs kashayam (decoction of Justicia Eebolinm).

Composition-vide presoription No. 58.
Dose- $\frac{1}{2}$ to 1 ounce three times a day.
Ther. use-In rheumatism and paralysis affeoting the lower extremities.
This was given to two cases of ohronic rheumatism of the knee joints bat the result was nnsatisfactory.
59. Shadanga panya (compound decoction of six drags) -

Composition-vide prescription No. 59.
Dose-Ad libitum.
Ther. use-Said to be a useful drink for appeasing thirst and relieving heat of the body in fever.

This cooling decoction is a famous and well known remedy in Malabar whioh almost every mother knows to administer to her little ones seized with fever. It is generally adminietered to adults as a diaphoretic and for quenching thirst in fevers. It is also used in aubdaing romiting accompanying fevers. This decootion was used as a diaphoretic and for quenohing thirst in all sorts of fevers and foand 10 serve those parposes well.
60. Fidarigandhadigana quath (Compound deooction of Ipoemes digitata)-

Composition-vide prescription No. 60.
Dose- $\frac{1}{2}$ to 1 ounce three times a day.
Ther. use-Bitter, expectorant, alterative and diuretio; reduces temperature and cures cough.

This componnd decoction was administered to several osses of bronchitis, the resalt of influenea and was found to be generally beneficial in effeoting a oure.

## Onntarnts, Liniments and Ierpas.

61. Avalgujadhi lepa-

Composition-ride preseription No. 61.
Ther. use-Waid to be useful in ringworm and eczema, psoriasis and other akin diseases.

This was found to be generally benefioial in ouring even fairly long standing cases of ringworm.
62. Kushtadi Lepa-

Oomposition-vide prescription No. 62.
Ther. use-Specially useful in ringworm.
This was found to be generally beneficial in curing even long standing cases of ringworm.
'63. Kurshai Kuba-
Composition-vide prescription No. 63.
Ther. use-Said to be aseful in ringworm.
This componind preparation was found to be useful as an external application in recent cases of different varieties of tmnia but in chronio cases it only gave temporary relief.
64. Dhanvantari thailam.-21 and $i 01$ timos boiled.

Composition - vide presoription No. 64.
Dose-4 annas weight to be taken in cumin seed decostion.
Ther ase-For all disorders produced by the derangement of the wind hamouremaoiation, weakness; useful in the diseases of generative organs, paralysis and rhenmatism.

This was foond to be useful in nearalgiss bot not in rheumatism.

## 65. Parradadi ointment--

Composition-vide presoription No. 65.
Ther. use-Said to be useful in-parasitic skin diseases suoh as ringworm of thescalp, scabies, eto.

This was used as an external appliostion in ringworm of the soalp and found to bebeneficial in such cases.
66. Prabhanjana Vimardhana-

Composition-vide prescription No. 66.
Ther. use--Used externally in rheamatism, paralysis and other nervous diseases.
This compound liniment was given as an external applioation to a oase of soiatios and. a case of neuritis of lege attended with pain. It was found to be effioacions in alleviating the pain temporarily in both those cased.
67. Khursai-aksir-ai-Pachis-

Composition-vide presoription No. ö?.
Dose-One tablet twice a day.
Ther. noe-Said to be useful in dybentery.
A few patients suffering from acute ajysentery and mucous enteritis were treated with. these tablets and the result was satisfactery.
68. Dashanga Guggulu.-Compound pill of bdellium; plumbago zeylanionm, etc.

Composition-vide preseription No. 68.
Dose- 1 to 4 pills thres times a day.
T'ber. use-Alterative and tonic, useful in nervous and rheumatic affections and also in rednoing obesity. Rheumatic patients did not derive any benefit from it.
69. Hubbai-jep-hhun-natas No. 1 (Asthma pills)-

Composition-vide prescription No. 69.
Dose-One pitt-thrice a day.
Ther. nse-Relieves the spasm, good expectorant and also relieves constipstion.
The ohief ingredients of these pills are opium, myrrh, hyosoyamas and benzoin. They areasid to possess antispasmodic and expectorant properties. Patients with asthma who were put. on these pills were relieved by their ase; there was free expectoration in eases of bronchitio.
70. Hubbai Zeekhun-nafas No. 2 (Asthma pills)-

- Composition-vide presoription No. 70.

Dose-One pill thrice a day.
Ther. use-helieves the spasm of asthme.
These pills were tried in cases of ast bme and the result was disappointing.
71. Hubbai-Sahfa-

Composition-vide prescription No. 71.
Dose-1 to 3 pills once a day.
Ther, nse-Oheoks the periodioal fever and troubles of elephantiasis and relieves. constipation.

These pills were given to patients, who were troubled with constant attacks of filarial fever, with elephantioid ewelling. After taking the pills for about three weeks, the patiente. were relieved of fever and have been free from it ap to the date of writing this report.

## 72. Hubbai-Javahir-

Oomposition-vide preseription No. 72.
Dose-One pill for infants and children and two pills for adults thrice a day.
Ther, use-Said to be useful in all the fevers, accompanied by cold, running in thenose, and beadache.

These pills whose chief ingredients are aconite, cinnabar, amber, pearls, pellitory, silverleaves, etc., are said to be very useful in catarrh and inflammation of the muoons mombrane of air passages attended with fever. These pills were administered to ohildren and adulta for nasal and bronchial catarrh and in aoute bronchitis and were fonad to act very efficiently in those dieeases.

## 73. Khursai-Mulian-

Composition-vide prësoription No. 73.
1/ose--One tablet.
Ther. use-Said to be useful in constipation. -
Theas purgative tableta were found useful as mild aperient.
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## 74. Whursai Gul-

Composition-vide presoription No. 74.
Dose-One tablet twice a day.
Ther nse-Said to be very wseful in tertian ague and other intermittent fovers.
These tablets were administered to pationtes suffering from intermittent fover (malerial): they did not do any good to the patiente who had to be subeofnently treated with quinine.
75. Kasis Tableto-

Coroposition (vide prescription No 75).
Dose- 1 to 5 tablete twice a day after meal.
These tablete were found oseful in relieving the pain and inorsasing the dicoharge in -menorthoes.
76. Pakshavadha Gugulu-Compound pill of bdelliam, three mymbolans, eto.

Composition-vide prescription No. 76.
Dose-1 to 4 pills of 6 grains each three timen a day with Rasn Quath.
Ther. nse-Alterative and tonio, asefal in paraplegia and hemiplegia.
Three hemiplegic patients were trested with thene pills for suffioiently long time but no improvement was noticed.
77. Sanjurini pills,-Compound pill of aoonitum feros and eemicarpus anaoardium, eto.

Composition-vide prescription No. 77.
Dose-1 to 4 pills of 1 grain eaoh.
Ther. use-Sedative to the stomach and intertines; useful in indigeation and ohronio diarrhœes.

These pills were found to posesse the properties attribnted to them.
78. Trikatukadhi Gulika,-Compound pille of the three aorids.

Composition-vide preacription No. 78.
Dose-1 to 4 pills of 2 grains each after meals with milk.
Ther. use-Tonio, alterative; useful in summia, dropsy, diabetes, onnstipation and spermatorrhoos.

These pills were administered to cases of tubercular phthisis, and no improvement exoept as alight alleviation of the cough was noticed.

## Llabse.

79. Arshakutara Rasa-

Composition-vide prescription No. 79.
Dose-1 to 4 pills of 2 grains each three times a day with buttermilk.
Ther. use-Tonic and laxative; espeoially presoribed in pilen.
These pills when given in cases of bleeding piles act as a gentle laxative and had no effeot on the bleeding.
80. Gandumalkandan Rasa-

Composition-vide prescription No. 80.
Dose-3 to 12 pills of one grain each twice a day.
Ther. äse-Alterative, and hæmatinic; said to be specially effioacious in tuberoular glands by improving geueral health.

These pills were given to cases of tuberoular glands but had not the elightest effect on the glands or the accompanying hectio fever.
81. Grahani Vajra Kapat Rasa-

Composition-vide presoription No. 81.
Dose-1 to 4 pills of one grain each to be taken three times a day.
Ther. use-Antacid, relieves pain and distension of the bowels in obronio dierrhoes,
These pills were found to be useful in relieving the indigestion, flatulence and disoumort accompanying chronic enteritis.

- 82. Kalkoota Rasa-

Cumposition-vide prescription No. 82.
Dose-1 to 3 pills three times a day.
Ther. use-Useful in cases of fever with delirinm and also antipyretic and antion iodio. It was found to be beneficial in a case of typhoid fever.
83. Lakshminarayana Rasa-

Composition-vide preseription No. 83.
Dose-1 to 3 pills every three hours.
Ther. use-Anodyne, antipy retic, diaphoretic.
In hemicrania and other formejof nearalgia, these pills were found to be ueful. The pills also reduced the temperature and caused diapharesis in remittent and intermittent fevers.
84. Lokanatha Rasa-

Oomposition-vide prescription No. 8i.
Dose- -1 to 4 pills of one grain esch three times a day.
I her. use-Usefnl in hepatitis, jaundice and dropsy.
These pills were administered to a patient with dropsy as a resalt of dilatation of the heart. The patient's condition was relieved by its use:

## 85. Mehamudgara Rasa-

Composition-vide presoription No. 85.
Dose-1 to 4 pills to be taken twioe a day after moals.
Ther. use--Tonio and antiperiodic. A few ceses of mild malarial fever were put on these pills and cured by their nge.
86. Maha Mriganks Rasa-

Composition-vide presoription No. 86.
Dose-2 grains.
Ther. use--Said to be useful in consumption, hoarseness of voice, heetic fever, eto.
This compound preparation was administered to a few cases of toberoular phthisis and the result was disappointing.
87. Maha Vätha Vidhwamsi Rasa-

Composition-vide prescription No. 87.
Dose-2 grains to be mixed with honey and given twiee a day.
Ther. use-Useful in all rheumatio paina, abdominal dropsy, anorexia and asthma.
88. Panchamrita Parpati--

Composition-vide presoription No. 88.
Dose-2 to 8 graing twice a day with powdered long pepper.
Ther. ose-Said to be very useful in chronio diarrhoea and sprue.
This compound pill was given to cases of chronic enteritis and diarrhoea and found to be generally pseful.
89. Pradararipoo Rasa-

Composition-vide prescription No. 89.
Dose-1 to 4 pills of 2 grains each three times a day with boiled starch water.
Ther. use-This rasa is a tonio and astringent and is said to be useful in leucorrhoea -and ohronio diarrhcoa.

It proved to be efficaoious in both the diseases.
90. Panchabana Rasa-

Composition-vide presoription No. 90.
Dose-2 grains.
Ther. use-Said to be useful in general debility and diseases of the head.
Under its use, the patients gained strength and vigour and the drug no toubt acted as a general tonic.
91. Ratnagìi Rasa-

Composition-vide prescription No. $91 .{ }^{-}$
Dose-2 to 6 grains every 3 hours with decoction of coriander.
Ther. use-Baid to be very valuable in fevers.
This was given to oases of malarial fevers. Ordinary malarial fever was easily cared by it after a few days' administration.
92. Raba Raja Rasam-

Oomposition-vide presoription No. 92.
Dose-2 grains.
Ther. uee-Said to be useful in all fevers.
This drug was administered to a bad oase of typhoid fever with delirium and persistent high temperature. After a few days' use all the typhoid symptoms abated; thereafter, the patient had an uninterrupted recovery.
93. Shwasa Chinthamani Rása-

Composition-vide presoription No. 98.
Dose-1 to 4 pills three times a day.
Ther. use-Said to be useful in asthma; phthisis, anæmia and general debility.
These pills were administered to several cases of asthma and were found to relieve the - epasms and alleviate the symptoms.
94. Vishava Tap Harana Rasa-

Composition-vide presoription No. 94.
Done-1 to 4 pills of 1 grain each.
Ther. use-Purgative and diaphoretio. Two pills were found sufficient to produce -3 or 4 watery evaouations.
95. Fathe Rakshasam-

Comporition-vide preecription No. 95.
Doee-2 grains to be mized with honey and given twice a day.
Ther. use-Paralysis, rheumatism, and melarial fevar.
This was given to oases of malarial fever. In bad cecet, it bad to be admunotered from 7 to 10 days before the petients recovered.
96. Vatha Vidheomoi Rasa-

Composition-vide preeoription No. 66.
Doso-2 grains to be rubbed in honey and given twiou a day.
Ther. nse-Ueoful in all rheumatic pains, abdominal dropey, anoresin and athma.
This compound was given to several cases of chronio rhenmatiem. A few of the pationte obtained relief from protracted use of the drag; bat in others it did not do good.

## APPENDIX IİI

## Formula of compound preparations.

Arishtab.

1. Abhaya-Arrshtain-

Ohief ingredients are-
Chebulic myrabolans (without seeds) (8 palams.)
Gooseberries (seedless) ( 6 palams.).
Root of citrullus colooynthis (o palame.)
Bark of aymplooos recemosa.
Pepper
Long pepper $\}^{\text {(eaoh one palam.) }}$
Oonvolvalus paniculatus.
Elavalukam and Feronia Elephantum (fruits of) 10.
Ail these to be boiled in 64 measures of water; concentrate to 16 measures, strain, add 60 lbs . of sagar, 16 palams of flowers of woodfordia floribunds, pat in an old pot nsed for preserving oil and allow to ferment for 18 days.

Dose- $\frac{1}{2}$ to 1 ounce three times a day.
Ther. use-Increases appetite, helps digestion of food, cures 'piles, -an̆æmia, skin diseases, ascites, enlarged spleen, fevers, dropsy, heart diseasea, oonsumption, vomiting, etc.
2. Pippali Arishta-

Chief ingredients are-

Pippali
Lodbra
Maricha
Patha
Draksha

Piper longum. Symplooos racemosa. Piper nigram. Cissampelos pareira. Vitis vinifera.

Dose- $\frac{1}{2}$ to 2 tolas, as directed.
Ther. nes-Stimulant, useful in cough, anorexia and asthma.
3. Kanaka Asava-

Chief ingredients are-

| Kanska | Datura Stramonium. <br> Vasa <br> Yastimadhu |
| :--- | :--- |
| Adhatoda vasioa. |  |
| Pippali | Glyoyrrhiza Glabra. |
| Dhatakipushpa | Piper Longum. |
| Draksha | Woodfordia floribanda. |
|  | Vitis Yinifera. |

Dose- $\frac{1}{2}$ to 2 tolas twice after meals.
Ther, use-Demuloent, expectorant, antispasmodic-and anodyne; useful in oough, asthma, phthisis:
4. Kumari Asava-

Chief ingredients are -
Kumari
Aloe offioinalis.
Dashmoola
The tein roots.
Pushkarmoola
Costus speciosa.
Dhanvayasa
Fagonia Arabica:
Ohitraka
Plumbago Zeylanịca.
Draksha
Dhataki puepha
Vitis Vinifera.
Woodfordia floribanda.
.Dose- $\frac{1}{3}$ to 2 tolas twice after meals.
Ther. use-Stimulant, larative and alterative; useful in cough, asthma, colic, ohronio conotipation.

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## Avalifag, Gritrank, Sxrupa and Compictions.

5. Anoka Ghritham-

Dose- $t$ to 1 tola, to be taken twice a day.
Ther. use-Alterative; useful in lencorrhcea, menorrhagia and other female complainte.

- 6. Annoh-Daroo-

Gulai-surach
Sad-i-koffi
Loung
Mastagi
Asaroon
Sumbullateeb
Khakila-i-Eigar
" Kubar
Zarnab
Jourboa
Bisbase
Darohiney
Khirfa
Zafran
Amela Munakka
Sugar
Honey

| Red rose petals | 6 drame. |
| :---: | :---: |
| Cyperus rotundus | 6 |
| Eugenia Caryophyllata |  |
| Pistacia terebinthua. | 8 |
| Valeraina Hardwiokii | 8 |
| Valerian Rhizome | 8 |
| Jeseer oardamome \} | 8 |
| Greater eardamoms | 8 |
| Cinnamomum Tamala | 2 |
| Nut of nutmeg. (Myristion officiv alis) | 2 |
| Arilus of nụt maoe (myrintica officin alis) | 2- |
| Cinnamomam Zeylanioum (bark) | 2 |
| Oortex | 2 |
| Sacaferas Indios |  |
| Fraits of emblic myrabolans | 1 lb . |
| Saccharam alba | 90 mashas. |
| Mel | 0 |

First boil amela (fruite of Emblio myrabolans) with mome water, remove the seede and grind well. Powder all the other ingredients, make oonfeotion of honey, sugar, and amela by boiling and then when it is cool mir the powder with it,

Dose $-\frac{1}{2}$ to $\frac{3}{7}$ tola, two or three times a day.
Ther. use-Removes the foul smell from the mouth. Improves digestion and is useful in heart diseuse.
7. Agasthya Rasayanam-

| The ton roote. - |
| :--- |
| Root of oleome viscosa. |
| Root of clitorea ternatea. |
| Curcums longa. |
| Hoot of sida oordifolis. |
| $\left.\begin{array}{l}\text { Boindspsus officinale. } \\ \text { Achyranthes aspers. } \\ \text { Piper longum. } \\ \text { Root of chavica roxburghi. } \\ \text { Root of plumbago zeylanica. } \\ \text { Root of clerodendron serrata. } \\ \text { Root of costus specionsus. } \\ \text { Wheat (64 palams.) }\end{array}\right\}$ Each two palame. |

- All these to be boiled in 20 measures of water and, when well boiled, strain the deoootion, add 100 chebulio myrabolans, 30 lb . of sugar, $\frac{1}{4}$ measare ghee, $\frac{1}{2}$ measure gingelly oil and messure of powdered long pepper. Boil and concentrate to the consistence of a confection. When cold, add $\frac{1}{2}$ measure honey.

Dose-Daily two myrabolans thus prepared.
Ther, use-Removes freckles, grey hair, gives tone, colour and longevity to the body, cures all kinds of cough, cunsumption, asthma, hiccough, poisonons fevers, piles, flatulence, anorexia and nasal catarrh. This confection is said to have been first prepared by alint Agasthya.

| si Confection Dhaiphal_. | Woodfordia. |
| :--- | :--- |
| Dadhaki. | Floribinda. |
| Bala | Aegle marmelos. |
| Jodhra. | Symplocos Racernosa. |
| Valo | Andropogon muricatus. |
| Gaja-pippali | Scindapsus officinalis. |
| Honey | Mel. |
| Powder and mix and torn into a confection. |  |

Powder and mix and torn into a confection.
Dose-1 to 2 drs .
Ther. use-Stimulant and astringent ; given in dysentery also in checking hemorrbages and ehronic discharges, such as menorrhagis and leucorrhoea.
9. Dhatrayavalehu-

Chief ingredients are-
Amalaka
Tastimadha
Phyllanthus Emblica.
Venshlochan
Cilyoyrrhiza Glabra. Pippali

Bamboo Manna.
Dose- $\frac{1}{3}$ to 1 tola, to be taken with milk twice or thrice a day.
Ther. use-Alterative, stimulant, demulcent. Useful in cough, bronchitis and other -ohest affections.

## 10. Davaul musk-

Chief ingredients are-


Powder all the ingredients with the exception of items 1, 2, 14, 19, 21, 22, 25, and 26.
Nambers 1, 2 and 14 should be well ground on a separate stone, adding rosewater for a period of two days. Then boil well iteme 27,28 and 29 ; after thorough boiling,-add the above powder to it.

Powder Nos. 19, 22, 25 and 26 and add to the mixture; items 1 , 2 , and 14 to be mixed later and at the end item 21 to be mixed with the whole preparation.

Dose- to to tola.
Ther. use-Gives strength to the cardiac museles and is nseful in funotions of the heart Also strengthens the contral nervons system.
11. Gulgul Thikthakam-

Bark of neem.
Y'inospors cordifolia.
Root of justioia adhathoda.

Triohosanthes dioioa.
Root of solanum jaoquini.

Take 10 palams of each of these and 16 measures of water and concentrate to two measurea by boiling. Add one measure of ghee after straining the decootion.

The kalkam medioines are-
Stephania Heraandifolia.
Convolvulus Panioulatue.
Cedrus deodura.
Scindapsus officinalis.
Carbonate of potassiam.
sodium
Zingiber officinalis. *
Carouma longa.
Anethum sowa.
Root of ohavios rox-burghi.
Calophyllam Tomentosum.
Piper nigrum.
Ptyohotis ajowan.
Seeds of Holarrhena antidysenterioa.
Root of plombago zeylanioum.
Piororrhiza kurroa.
Acorus calamus.
Root of piper longam.
Rubia cordifolia.
Aconitum heterophyllum.
Caminum cyminum.

Take each of the above 8 kalanghis.
Parified bdelliam (5 palams).
Add all theee as kalkam to the prepared ghee.
Dose- $\frac{1}{2}$ to 1 ounce three timee a day.
Ther nee-For all kinds of wind disorders, skin dinesees, aloern, ayphilis, interaal pilce, ecrofula, dysentery, diabetes, consumption, anorexia, ozoena, enthms, emsoiation, heart diesanes, nnaemia
12. Javarisha-i-amela-


Garda Semagh .. .. .. Rhum cotiaria (Huak from the dry seede of samech).

fruits of emblic myrobolans.


Make a confection of rose water, amela, and sugar candy.and add to it when oold the other ingredients ( p owdered).

Dose- $\frac{1}{2}$ to $\frac{8}{4}$ tola twice or thrice a day.
Ther. use-Improves digestion; useful in stomatitis, removen the excess of beat from the body.
13. Jawarishai-Suliamani-


Turn into a confection.
Dose- $\frac{1}{2}$ to $\frac{8}{4}$ tolas 2 to 3 times a day.
Ther. use-For diarrhoes ; dyapepsia; indigestion; heartburn; vomiting of undigested matter.
14. Jawarigha-i-Thurush-


Powder all the ingredients and mix them with lime juice.
Dose- $\frac{1}{4}$ to $\frac{1}{6}$ tola twice a day.
Ther. use-Useful in indigestion and in want of acidity in the stomach.
15. Kantakari Avaleha-

Chief ingredients are -
Kantakari.
Chitraka.
Shringi.
Trikatu.
Solanam zapthooarpum.

Rasna.

Plumbago zeylanicum.
Rhus succedanea.
The three acrids.
Vanda Roxburghii.

Dose-六 to 2 tolas, to be taken when necessary, followed by milk.
Ther. nse-Expectorant, diuretic and aperient. Ueefal in cough, bronahitis, asthma and other chest affeotions, and dropsy.
16. Khamir-ai-abrasham-


Tie abrasbam in a cloth and boil it with 14 tolas of gauzaban water, (coccinia glanco) 14 tolas of rose wiater, 14 tolas of baida misbk water, and 48 palams of distilled water, till the bulk is reduced to about one half, etrain and filter ; then make a decootion of the filtrate with 14 tolas of behin juice, 14 tolas of sweet pomegranate juice, 14 tolas of apple juice, 6 palame of honey, 9 palams of angar candy and 9 palams of sugar.

Powder the other ingredients and mix them with confection and add-

| Umber |  | $\cdots$ | $\cdots$ |  |  |  | 6. mashas. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gold leaves | . | . | . |  |  |  | $\frac{1}{2}$ tola |
| Silver leaves |  | . | . |  |  |  | 年tola. |
| Pearl powdered |  | $\therefore$ | $\cdots$ |  |  |  | 1 tola. |
| Yakhoot. . | . | . | $\cdots$ | Red rabies |  |  | 9 mashas. |
| Murjan . . | . | . | . | Corals | . |  | 1 |
| Kharuba | . | . | - | Amber | . |  |  |
| F'abab | $\cdots$ | . | $\cdots$ | Green hard stone | . |  | 9 mashas. |
| Musk |  |  |  |  |  |  | 4 mashas. |

Dose- $\frac{3}{4}$ to $\frac{1}{2}$ tola.
Ther. nse-Said to be nseful in all cardiao affections; palpitation is effeotively relieved. A good nervine tonic.
17. Laboobaisaghper-

Badam.
Ban.
Chaigoza.
Megaza-i-findack.
Habalkhulkhil.
Khaskhas.
Bahamena-i sufeed.
Bahamana-i surakh.
Kunjad.
Tukhma-Jargeer
Tukhma-Pivaz.
Tukhma-Sulgam.
Tukhma-Shabith.
Zangabeel.
Darfilfil.
Kababa.
Khirfa.
Darchiney.
Shakhakhul.
Khalinjan.
Tukhama-i-Halioon.

Amygdalae dulois.
Juglans.
Ooffee.
A kind of almonds.
Kind of almond-like nat.
A kind of pepper.

## Poppy seeds.

Centaurea Behen.
Centanrea Red.
Sosamum Indionm.
Seeds like aniseed.
Allium cepa.
Beet root seerds.
Soyeeh beans:
Zingiber officinale.
Rnot of chavioa-roxburghii.
Piper cabeba.

- Cinamomum cortex.

Cinamomum Zeylanicum.
Asparagas ascendens.
Alpinia officinarom.
Asparagas offioinalis.

Take equal parts by weight of each and honey thrice the weight of ingredienta.
Powder the ingredients and mix them with honey.
Dosem $\frac{1}{2}$ to 1 tola with two or three ounces of milk.
Ther. nee-Useful in polyarea due to some kindnes affection.
Increases and thiokens the semen. Builds up the nervous tiesue and also the kidney tissue.
18. Mamsa Sarpishi-
-Mutton.. . .. .. .. .. .. .. .. 100 palams.

Boil down to 4 measures, strain, then add 1 palam of each of the drage, inoluded in jeevaniya ghanar. After grinding, add to this one measure of ghee, boil and strain.

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Dose- $\frac{1}{1}$ to 1 ounce three times a day.
Ther, uee-Usefal in insanity, epilepay and paralytio disorders.
19. Majoonai Mussifi-

20. Majoonai sual-
, Munnaka .. .. .. Preserved grapes ... .. .. 48 tolas.
Aslaisus . . .. .. Glycyrrhiza radiz .. .. .. 8 "
White sugar .. . . Saccharam alba . . . .. . . . . 82 "
Postai-halelsi Kabli .. Chebulic myrabolana .. .. .. 2 .
Do. Balila .. Beloric myrabolans .. .. .. 2 "
Darcheny .. .. .. Oinnamomum Zeylanioum .. .. 2 .
Kharanfil .. .. .. Eugenia caryophyllata . . .. .. 2 . .
Jouzbuva .. .. ... Myxistioa officinalin . . .. .. 2 "
Zaranbad .. .. .. Carouma Zedoaria .. .. .. 2 "
Badian $\therefore$.. .. Pimpinells anisam .. .. $\quad$.
Amele .. .. ... Emblic, myrabolans .. .. .. \& "
Anisoon .. .. .. Anethum sowa .. .. .. .. 支dram.
Make decootion of aslaisus (glycyrrhiza radix) powder all the other ingrediente and make confection with sugar and grapes preserved.

Dose- $-\frac{1}{2}$ to 1 tols twice a day.
Ther. use-Expeotorant and very useful in bronchitia.
21. Majoonai Malarial fever-

cooled.
Dose $-\frac{3}{4}$ to $\frac{1}{3}$ tola thrice a day.
Ther. nse-Usefal in malaris; long continued use brings on reduction in the -nlargemont of spleen and liver.
22. Mahatikta Ginrit-

- Chief ingredients are-

| Saptaparna | - |  | ; | Alatonia scholaris. |
| :---: | :---: | :---: | :---: | :---: |
| Katuki |  |  | : | Picrorrhize kurroa. |
| Patha |  | : | - | Cissampelos Pareira. |
| Parpat |  |  | . | Oldenlandia Herbaceas. |
| Moorva | . |  |  | Clematis Trilobs. |
| Vaba | : |  |  | Jnaticia Adhathoda. |
| Sariva |  |  |  | Hemidermus indicas. |

Dose- $\frac{1}{2}$ to 2 tolas, to he taken twice a day.
Ther. nse-Bitter tonic and alterative; neeful in chronio skin diseaces and in leprosy.
23. Mahajam-e-til-


Mix and make confection.
Ther. use-Said to be useful in dyspepsia, congested liver, anorexia; eto.
24. Madhusnuhi Rasayanam-

Tinospora oordifolia.
Bcerhavia diffusa.
The three myrabolans.
The three acrids.
Cardamomum.
Cinnamom leaves.
Cuminum oyminum.
Saindhava salt.
involvulue panioulatus.
Alpinia chinensis.
Clerodendron serratta,
All these 3 kazhanjies each.
Smilax chinensis equal to all the above ingredients; add equal quantities of sugar, ghee, and honey.

Dose - 8 to 1 tola in milk.
Ther. nse-Restores loss of appetite and taste ; useful in consumption, diabetes, abdominal disorders, akin diseases, nervons debility, etc.

## 25. Neelini Ghritham-

Convolvalus-Argenicus.
The three myrabolans,
Alpinia chinensis.
Sida cordifolia.

Pierorrhiza kurroa.
Convolvulus panioulatus.
Embelia ribes.
Root of solanum jacquini.
'I'ake one palam of each. Make a decoction in 4 measures of water, concentrate it to $\frac{7}{2}$ measure. Strain and add to the olear decoction one measure of ghee and one measure of ourd, also one palam of kallipal, (Milky juioe of Euphorbia Tirucalli). Boil till all the watery portion is evaporated and turn into ghritham.

Dose- $\frac{1}{2}$ to 1 tola in staroh water twice a day.
Ther. use-Skin diseases, ascites; dropsy, anæmia, enlarged spleen, insanity and dyemenorrhœes.
26. Panchagaviya Ghritham-

Root of oyperus rotundus.
Cardomoms.
Root of plumbago zeylanionm,
Root of evolvalue panioulatus.
Glyoyrrhiza glabra.
Carcuma longe.
Root of rabia cordifolia.
Root of atephania hernandifolia.

Root of piper nigrum.
Do. of Chavioa roxburghii.
Coriandrum sativum.
Pimpinella anisum.
Nigella sativa.
Nardostaohys jatamansi.
Aplotaxis auriculata.
Root of plumbago zeylanionm.
Hemidesmus indicus.
Curculigo orchioides.
Withania somnifera.

Ther. ase-Gives strength, beanty, deatroye bile and poisons, curee obdominal swelling, pain in the ohest and aterility.
27. Syrupu $H$ yseopue officinalis-


Macerate the whole for 12 hours, then boil down to half the quantity of water and strain. Add 2 lbs. of sugar and prepare syrup.

Dose- $\frac{1}{8}$ to 1 flaid ounco.
Ther. nse-Stimulant, carminative, diaphoretic and emmenagogue, mid to be gsoful in dyspepsia, flatulence, asthma, ohronic bromohitia, amenorrhosa, rheumatiam and inflaensa.
28. Syrup Herpestis Monniera (Brahmi)-

Syrup prepared from the freah leaves of Herpeatis Monniera.
Dose- 1 to 2 drachms twioe a day after meala.
Ther. nse-Useful in hysteria, epilepsy, insanity and mental derangementa, aloo neeful: in hoarseness and for improving roice.

## Beasmays.

29. Abrak Bharmam (Suhasra Pati) Caloined 1000 times-

Dose-2 to 6 grs. to be taken twice a day. with honey.
Ther. use-Useful in phthisis, and debility of old age; gives atrength to the body.
30. Naga Bhasmam-

Dose-2 to $\mathbf{1 2}$ grs. to be taken twice a day with butter or ghee.
Ther. ase-Removes urinary disorderm and general debility.
31. Thalaka Bhasmam-

Dose- $\frac{1}{2}$ to 2 gra. with honey and sugar.
Ther, use-Useful in phlegmatio diseases, cough, fever, eto.
32. Sringa Bhasmam-

Dose-6 to 12 grs . with milk, ghee or honey.
Ther. aso-Useful in gonorrhcea.
33. Vanga Bhasmam-

Dose- 2 to 6 gra. to be taken twice a day with honey or batter.
Ther. use-Useful in urinary disorders and general debility.
34. Yasada Bhasmam-

Dose-1 to $\overline{\text { I }}$ graine with milk, cocoanut water, sugar, or honey.
Ther. nse-Useful in dyspepsis, stomach-sohe and urinsry diseases.
.. . Cedrnays.
35. Bhoonimbadhi churnam-

The chief ingredients are-

Kirata.
Katuki.
Trikatu.
Musta.
Indrayama.
Chitraka.
Kntajatwak.

Dose.-20 to 60 grains to be taken three times a day.
Ther. use-Said to be bitter tonic, intestinal tonis, antiperiodio and gastrio atimalant: useful in dyspepaia, chronic diarrhoea, fevers, dysentery and worms.
36. Chaturushana churnam-
(The four heating or biting agents).
Pipali.
Miri.
Suntha.
Pippaili Moola.

| Piper longmm. |  |
| :---: | :---: |
| Piper nigram. | All in |
| Zingiber officinslis. | equal parte |
| Root of chavica roxburghii. | equa parto |

Dose-10 to 60 grains twioe a das.
Ther. use-Said to be asefal in colic and flatulence, aloo for oough and coryza.
37. Jatiphaladi churnam-

Vijaya
Jatiphala.
Karpura.
Ela.
Lavanga.
Chitraka.
Vanehloohana.
Canabis sativa.
Myristica Fragrane. Camphor.
Elettaria cardamomum.
Eugenia Caryophyllata.
Plumbago Zeylanica.
Bamboo manna.
Dose- 12 to 24 grains, to be taken with honey twioe a day.
Ther. use-Sedative, anodyne, and ańtispasmodic. Useful in' asthma, colic, neuralgia, " menorrhagia, dysmenorrhoea, spasmodic cough, etc.
38. Katphalads churnam--

Katphala.
Mnstgka.
Karkatahringi. Kusta.

Myrica appida,
Oyperus Rotundus.
Rhus succeedanea. Alplotaxis aurioulata.

Equal parts.
Doee-Half to one dram given with ginger juice and honey.
Ther. use--Stimulant, diaphoretio, and astringent, useful in diarrhcoa, dysentery, feversasthme and gonorrhoes.
39. Kapithashtaka churnam-

Chief ingredients are-
Feronia elephantam.
Pomegranite.
Tamarind.
$-$

Aegle marmelos. Woodfordia floribunda.
Thr three acrids.
Dose-10 to $\mathbf{4 0}$ graing, to be taken three times a day with water.
Ther. nse-Astringent, stimulant and stomaebic
40. Madanadivaman-

Chief ingrediente are-
Madanaphala. . - Randia dumetornm.
Arkamoola. $\quad \therefore \quad$ Calotropis gigantea.
Yasthimadhu.
Glyoirrhiza glabra.
Dose-As an expectorant 5 to 15 grains, as an emetic 20 to 60 grs, to be taken with tepid water.

Ther. use-Expeotorant, demalcent and emetic. Useful as an expectorant in bronohitisand other ohest affections; and as an emetio in oolic, headache, orchitis, indigestiou, eto.
41. Pulvis amilax officinalis Co. (Anti-rhenmatio powder unani)--


All these must be powdered and mixed.
Doso-Half tola to be taken twice a day in oold water.
Ther. use-_Said to be useful in rheumation and syphilis and is considered a good blood. purifier.
42. Narassmha churnam-

Chief ingredients are-
Triphala,
Trizatu.
Tila.
Bhallataka.
The three myrabolans.
The three aorids.
Sesamum Indicum.
Semioarpus Anacardium.
Dose-10 to 40 grains, to be taken twice a day with ghee or sugar
Ther. noo-Stimulant, tonio, alterative. Useinl in sexual debility nearalgia and dyspopsia. This in also nsed io syphilis.

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43. Pwehyanuga chuernam-

Chief ingredients are:-
Patha.
Ciseampaloa Pareirn.
Jaunbuanthi.
Amrashthi.
Ashmabeda.
Kutajatwak.
Lodhre.
Bilva peshika.
DhataEipushpa,
Stone of the frait of engenia jambolans.
Mango stono.
Coleus Aromations.
Holarrhem antidyeenterio (bark of).
Symplocos Recemosa.
Aegle marmelos.
Woodfordis floribunds (flowens of).
Dose- 20 to $\mathbf{6 0}$ grains to be taken twice a day with rice water.
Ther, use-Alterative, tonio, astringent, diaretio. Useful in leacorrhose, menorrhagia and other aterine complaints.
44. Pancha Kola churnam. Compound powder of five pungente-

Pipali.
Pipali moola.
Santha.
Cbavika.
Chitraka.

Root of piper longam.
Root of ohavios roxbarghii.
Zingiber officinalis.
Stem of pepper plant.
Plumbago veylanioum.

Dose-10 to $\mathbf{3 0}$ grains twice a day.
Ther. use-Said to be useful as a good appetizer and is used in dyspepsia, cough, flatu-. lence and enlarged spleen.
45. Panch-nimbechurnam-

A componnd powder of the five parts of melia azadiraohta. These are:-Leaves, bark, root, flowers and fruits. All dried in shade, pounded together and nsed.

Lose-5 to 20 grains.
Ther. use-The componnd powder is tonio, and given in convalescence from fever.
46. Suffu-fai-siah-.

Kababa.
Khas khas.
Postai balila.
Amela.
Zeers bafeed.
Oubebe officinalis.
Poppy seeds.
Myrabolans (beleric).
Fraite of emblic myrabolans.
White carsway fruit.
Take equal quantity of eaoh of the above druge, roast and powder them finely.
Dose-5 to 10 grains three times a day.
Ther. use-Astringent, said to be nseful in dysentery.
47. Shringyadhi churnam-

| $\begin{array}{l}\text { Sole ingredients are :- } \\ \text { Bhringi. }\end{array}$ |  |
| :--- | :--- |
| Pippali. | $\begin{array}{l}\text { Rhns succedanea. } \\ \text { Vissha. }\end{array}$ |
| Piper longum. |  |
| Aoonitum Heterophyllum. |  |

Dose-1 to 4 grains, to be given three times a day with honey.
Ther. use-Gastric stimulant, astringent, alterative; usefal in diarrhcos (infantile) bronchiris, teething, inoontinence of arine.
48. Suranadhi churnam-

The ingrediente are:Amorphophallus Campanulatus. Plumbago Zeylanienm. Zingiber officinale.

Piper longum.
Jaggery.
Dose- 10 to 30 grains twice a day.
Ther. use-Said to be useful in piles and dyeentery.
49.-Shadushana churnam. Componnd powder of the six acridg-

Pippali.
Pippali moola.
Santha.
Chavika.
Chitraka.
Miri.

Piper longam.
Root of chavica raxburghi.
Zingiber officinale.
Stem of pepper plant.
Plumbago zeylaniena.
Piper Nigrum.

Dose-10 to 30 grains twice or thrice a day.
Ther. use-Said to be usefal as an appetiziug agent and in flatulence.
50.- Vaishvanar churnam-

The ohief ingredients are:-
Saindhava,
Ajmida.
Yavani.
Pippali.
Shonthi.
Haritaka.

Common salt.
Ptychotis Ajowan.
Uarum copticam.
Piper longum.
Zingiber offcinale.
Terminalia chebule.

Dose-20 to 60 grains twioe a day.
Ther. use-Gastric atimulant and oarminative.
51. Vadavanal churnum-

Ohief ingredients are-

Saindhava.
Pippalimoola.
Pippali.
Chitraka.
Shunti
Haritaka.

Oommon salt.
Piper longum (root).
Piper longam.
Plambago zeylanioa.
Zingiber officinale.
Chebalic myrabolans.

Dose-10 to 40 graing to be taken twioe a day with water.
Ther. use-Stimulant, aperient, alterative, expectorant and tonio.

## Decoctions or Quaths.

-52. Bharangyadhi Kashyam-

Cherateku.
Thippili.
Kagahari.
Haridra.
Vasa.
Amritham.
Nagaram.
Dhanya.

Clerodendron eerrata. Piper longum.
Root of casiaia ocoidentalis.-
Bark of coscinum fenestratum.
Root of justioia adhathoda.
Tinospora cordifolia.
Zingiber officinale.
Coriandrum eativum.

Dose-1 ounce three times a day.
Ther. use-Said to be useful in relieving the fits of asthma.
53.-Arkàdhi-

Chief ingredients are-

Arka
Jiraka.
Trikatu.
Kantakarika.
Shringi.
Kushta.

Calotropis Procera.
Caminum Oyminam.
The three acrids.
Solanum Xanthocarpum.
Rhus succedanea.

- Saussurea Leppa

Dose- $\frac{1}{2}$ to 1 onnce to be taken twice a day.
Ther, use-Alterative, stimulant and expeotorant. Useful in dengue fever, aoute bron-- ohitis, pneumonia and fevers complicated with ohest affection.
54. Kalingakadi Quath-

Ohief ingredients are-
Indrayava. Holarrhena Antidysenterioa.
Patola. . Trichosanthes Dioica.
Katuki.
Picrorrhiza kurroa.
Dose- $-\frac{1}{2}$ to 1 ounce to be taken twioe a day.
Ther. use-Bitter tonic, anti-periodio. Useful in fevers specially in fevers. with liverderangement.
-55. Terminalia Arjuna -
Chief ingredient is-
Arjuna. 1 Terminalia Arjuna.
Dose-1 to 2 ounces twice a day.
Ther, use-Naid to be ureful in heart-diseases.
56. Dasamoola Panchakoladhi Kashayam -

Dasamoola.
1'anohkolam.

- Thippili.

Ginger.
Ohavica.
Pippali moola.
Chitraza.
Triphale.
Dhanti.
Thrivrith.

The ten roots.
The five pungents.
Pipar longum.
Zingiber officinale.
Stem of the pepper plant.
Root of chavica roxburghii.
Root of plumbago zeylanicum.
The three myrabolans.
Baliospermam montanum.
Ipoemea Tarpethum.

Prepare the deeoction in the usual way.
Dose-1 ounce three times a day.
Ther. use-This is very much resorted to for the relief of asoites.
67. Patyadi Quathe Chief ingredients are Triphala.

The three myrabolane.
Kirats. Gadoochi.

Bwertia Ohirata.
Tinospora cordifolia.

Dose-1 to 2 ounces to be taken twice a day.
Ther. use-Alterative, bitter tonio and antiperiodic. Said to be useful in dyapepaia add feverishness; and hemiorania.
58. Sahacharadhi Kashayam-

- Karingarinjee.

1 Devadaram.
Chakku.

Eobolium linneanum.
Cedrus deodara.
Zingiber offioivalia.

Prepare decoction in the usual way.
Dose-1 ounce three times a day.
Ther. nse-For all rheumatic and paralytio complainta.
It is said that if this decoction is administered along with oastor-oil, rhoumatio and paralytio patients who are bed ridden, will regain the power of moving about.
59. Shadanga Paniyam-

The tubers of oyperus rotundus.
Red sandalwood.
Root of andropogon Maricatus (Usira).
Oldenlandia Herbacea (Parpata).
Paronia odorata (Baala).
Dry ginger.
Water.
Each one dranhm.

Boil down to one seer.
Ther, use-This deooction is given as a drink for quenohing thirat and relieving beat of the body in fevers.
60. Vidarigandhadigana Quath-

Chief ingredients are-
Shaliparni.
Vidari.
Gokshuraka.
Shatavari.
Sariva.
Punarnava.
Bribati.

Ipomosa Digitata.
Tribulus Terreatris.
Asparagus racemosus.
Hemidesmus Indicus.
Boerhavis diffusa.
Solanum Indicam.

Dose-1 to 2 ounces to be takeñ twice a day.
Ther. use-Bitter tonic, nutritive, expectorant, alterative and diuretic. Said to be useful in fevers and bronchitis.

Ointments, Liniments asd Lepab.
61. Àvalgujadi Lepa-

Ohief ingredients are-
Bawuchi seeds.
Chakramarda seedis.
Psoralia corglifolia.
Cassia Tora.
Directions for use-Paste of the powder with lemon juice should be applied on the part affected.

Ther. nse-Useful in ringworm and eezema; psoriasis and other akin diseases.
62. Kushthads Lepa-

Chief ingredients are-
Kuehta.
Vidanga. Chakramarda.

Sanssurea Lappa.
Embelis Hibes.
Cassia Tora.
Ther. use--The paste of this powder with lemon juice should be applied on the affeoted part. Useful in ringworm.
63. Kursh-ai-kuba-

Sulphur.
Black zeera.
Mercary.
Bavancha.
Gile-armani.

Nigella sativa.
Psoralis corylifolis.
Bolus armenia rubra.

Take all in equal parts, powder them well and grind in ginger juice, make into tablets
Thers nse-Said to be useful as an external application in ringworm.
64. Dhaneoantri Thailam-

Bala.
Milk.
Wheat-
Kolam.
Kulastham (old horse gram).
Dasamoola.
Medha.
Maha medha.
Daroo.
Devadarum.
Manjista.
Kakoli.
Ksheera kakoli.
Chandanam.
Nunnari.
Koshtam.
Thagaram
Jeevaka.
Yedavakam.
Saindhavam.
Uluva.
Kaumatham.
Vacba.
Agaru.
Punnarnava.
Aswaghandha.
Sathavari.
Ksheera anklam.
Yashthimadu.
Triphala.
Niriasam.
Sathakuppu.
Ulandu.
Cherupyru.
Katupyru.

- Yalai arisi.

Eananga tholi.
Samudrapachi.

## Sida Cordifolia.

Triticum Vulgare.

The ten roots.
Physalis flexuosa (withania somnifera).
Ichnocarpus frutescens or Hemidesmua Indicus.
A tree like oak.
Oedrus deadara.
Rnbia Cordifolia.
Berries of lavanga soandens.
Do. variety.
Santalinus album.
Hemidesmus ipdions.
Aplotaxis a arioulata.
Taberna montana.
Tinospora cordifolia.
Carpropogea prariens.
Saindhava salt.
Trigonella foenum-graecum.
Rock exadate.
Acoras calamus.
Aquilaria agallocha.
Boehaevia diffuse.
Withania somnifera.
Asparagus racemosus.
Glycyrrhiza glabra.
The three my riabolans.
A nethum sows.
Black gram.
Green gram.
Phäseolus Adenenthus.
Engenia cardomomum.
Bark of cinnamomum zeylanionm.
Garoinia xanthoohy mus.

The quantity of the decoction of sida cordifolis must be 6 .times the quantity of the oir used; so also milk. The devoction of wheat, ten roots, etc., forme one part.

Dose-4 annas weight to be taken in oummin seed deocction.
Ther. use--For all disorders produced by the derangement of the wind humour, emaoiation, weakness; useful in the diseases of generative organs, paralysis ànd rheumatism.
65. Paradadi Ointment-

The ohief ingredient is-
Parada.
Meroury.
Ther. use-Useful in parasitic skin diseases, such as ringworm of the scalp and scabies.

## 66. Prabhanjana Vimarahana-

Root of aida cordifolia.
Do. asparagus racemosus.
Do. moringa pterygosperma.
Do. eitrus medioa.
Do. calotropis gigantea.
Bark of popgamia glabra.
Root of rioizes communis.
Do. ecbolinm linneanum.
Do. withania somnifera.
Do. araria lagopoides.
The five bigger roots of dasamoola.
Aegle marmelos, colosanthes indioa, gmelina arborea, sterospermum saaveolens and premns spinosa.

Make a decoction of these; concentrate to $\frac{1}{2}$ part. Strain the deocotion, add gingelly oil, double the quantity of milk and curds, also fermented rice washed water.

For kalkam-add the followiug:-

Taberas montana.
Oedrus deodara.
Cardomom seeds.
. Ginger.
Mustard.
Acorus oalamus.

Plumbägo zeylanioum.
Valeriana jatamansi.
Pinus longifoha.
Picrorrhiza kurros.
Three kalanjhies of each of the above.
Boil with kalkam, strain.

Ther. use-Úsed internally and'externally and as sternutstory; oures 80 kinds of dimorders produced by the derangement of the wind hamour.
III-9

## Pula and farlits.

67. Aksir-ai-Pachie -


Powder all the ingredipnta and make tablete with water about 2 makhan each.
Dose-Úne tablet twice a day.
Ther. nee-ln dysentery.
68. Dashanga Guggulu-

Chief ingredients are-
Trikatu.
Triphala.
Chitrala.
Guggala.

The three ecrids.
Do. myrabolans.
Plumbago Zeylanioum. Balsamodendron Makal.

Make into pills of 6 gra . aroh.
Uose-1 to 4 pills to be taken three times a day.
Ther. nse-Alterative, tonic, stimulant; nesful in obesity, in nervous and rhenmatio *ffections.
69. Hubbai-seekhun natas-(Asthme Pills No. 1).


Make pills about 1 grain each.
Dose- 1 pill, thrice a day.
Ther. nse-Relieves the spasm of bronchitie, good expeotorant, also relieves constipation.
70. Hubbä-i-see-khun-nafa-(Asthma pills No. 2).


Prepare 120 pills.
Dose- 1 to 2 pilli, thrice a day.
Ther. use-Relieves the spasm of asthma.
71. Hubbai-8hifa-

Filfilai sufeed.
Bachnag.

White pepper.
Aconitam ferox.

Saturate in milk for three daýs.
Every day thé milk to be changed. Fresh milk to be added. Grind the above drags is ginger juice and make pill.

Dose-1 pill, three times a day.
Ther. use-It is said to check the periodical aigns and symptoms of elephantiasis, viz., faver and swelling.
72. Hubbai Jaubahir-



Aconite mast be boiled in fresh milk daily for 5 days, -then washed well, its outer coat nomoved and then dried.

Powder with other ingredients and make pills about the size of a mustard with ginger juice.

Dose-i 1 pill for infants and ohildren and two pills for adults twice a day.
Ther. uso-Said to be nseful in all the fevers accompanied by oold, ranning in the nose and headaoke, eto.
73. Khurs-ai-mulaian--


Powder all the ingredients and make tablets of 2 mashas each with (Isbogala) decoction.
Dose.-One tablet.
Ther. nse-Said to be useful in constipation,
74. Khursai:Gulh-

Gulai-surakh. .j Red rose petals.
Katira. Tragacanth.
Badian.
Anisum sowa.
Tabaphir.
Bambasa arnndinaoea (Silicious conoretion)
Aslasoos.
Magvai-tikhmai-kaddu.
Glyoyrrhiza glabra.
Pumplin seeds.
Gucumis utilissimns.
Take all the ingredients of the same weight, powder them well and make tablets of $1 \frac{1}{3}$ :maehas each.

## Dose-1 kharus twice a day.

Ther. use--Very useful in all intermittent fevers.

## 75. Kasis Tablets-

The ohief ingredient is sulphate of iron.
Dose-1 to 5 tablets of 1 grain each to be taken twise a day after meals.
Ther. uso-Tonio and hæmatinio.
76. Paksiavadha Gugulu-

Ohief ingredients are-
Gugulu.
Triphala.
Yavani.
Sarshapa.
Patha.
Cbitraka
Hinda.
Indrayana.
Jiraka.

Balgamodendron makul.
The three myrabolans.
Carum ooptioum.
Brassica oampestris.
Cissampelos pareira.
Plambago zeylanioum.
Assafortida.
Hularrbena antidysenterioa.
Oamiauln oyminam.

Make into pille of 6 grainn ecoh.
Dose - 1 to 4 pills to be taken three times a day.
Ther. nee-Alterative, tonio; neeful in paraplegia, hemiplegis and other paralytioaffectione.
77. Sangivani pilto-


Make pills of 1 grain each.
Dose- 1 to 4 pills, three times a day.
Ther. use-Sedative and gastrio stimulant; useful in indigeation, ohronio diarrhaes,' oholera.
78. Trikatuadi Gutika-

Chief ingredients are-
Lohah bhaemam.
Calcined iron.
'T rikatu.
Triphala.
Chitraka.
Musta.
Vidanga.
The three aorids.
Do. myrabolana.
Plumbage zeylanics.
Oyperus rotundus.
Embelia ribes.
Doso-1 to 4 to be taken after meals with milk

- Ther. use-Tonio, alterative; useful in sorofula, phthisis, anæmia, dropay, apermotorrhcea, diabetes, general debility, sexual debility.

79. Arghakutara Rasa-

Kajjali.
Tamra bhasma.
Loha
Trikatu.
Surana.
Yevakshara.

## Rusas.

Cinnabar.
Oalcined oopper.
" iron.
The" three acrids.
Amorphallus campanalatua.
Carbonste of potash.

Dose-1 to 4 pills, three times a day.
Ther. nse-Alterative, tonic, laxative; neeful in piles; gives tone to the body and keeps thie bowels free.
80. Gandamalakandan Rasa-

Chief ingredients areKajjali. Tamra bbasmam.
. Loha bhasma.

- Kanchanar bark. Gaggalu.

Oinnabar.
Calcined oopper. Do iron.
Banhinia variegata.
Balsamodendron muknl.
Dose-3 to 12 pille, twice a day.
Ther. nee-Alterative, tonic, hmmatinic; usefal in scrofulous affections; improvesgeneral health.
81. Frahani Vajra Kapta Rasa-

Dose-1 to 4 pills, three times a day with whey.
Ther. use-Antacid, alterative; neeful in hyperacidity and relieves pain, discomfort and distention of the bowels.
82. Kalakoota Rasa-

Chief ingredients are-

Aconite.
Kajaali.
Tamra bhasma.
Manoshila.
Haratal.
Chitrak. -
Triphala

Aconitum ferox. Cinnabar.
Calcined coppor.
Realgar.
Orpiment.
Plumbago zeylanioum.
The three myrabolana.

Dose- 1 to 3 pills, 3 times a day with betel leaves.
Ther. use-Useful in fevers with mental derangement; in high fever, it reduces the temperature, and when given during parox yem, it acts as an antiperiodio.
83. Lakshminarayan Rasa-

Chief ingredients are-
Abhrak bhasma.
Rasasindura.
Calcined talo.
Vatsanabhi.
Kutaka
Katajatwiak.
Merouric oxide (red).
Aconitum ferox.
Picrorrhiza kurroa.
Holarrhena antidysenterioa (bark of).
Dnse- 1 to 3 pills, every three hours, during fevers.
Ther. use-Anodyne, antipyretic and diaphoretic; useful in convulsions, hemioranis ${ }^{\circ}$ and neuralgia.
84. Lokanatha Rasa-

Chief ingredients are- .
Kajjali.
Meroury sulphide.
Abhrak bhasma.
Calcined talo.
Loha bhasma.
; iron.
Tamra bhasma.
" eoopper.
Dose-i to 4 pills, to be taken three times a day with honey.
Ther. use-Useful in diseases of the liver and in dropsy and jaundioe.
85. Mehainudgara Rasa-

Chief ingredients are-

Loha bhasmam.
Rasanjana.:
Darvi
Gokshura.
Bilva. Guggala.

Calcined iron.
Extract of Berberis aristata.
Berberis alistata.
Tribulus terrestris.
Aegle marmelos.
Balasamodendron mokul.

Dose-1 to 4 pills, to be taken twice a day aîter meals.
Ther. uso-Tonio, antiperiodio, and alterative; useful in spermatorrhcea and other -disorders of the urinary tract.


Macerate all these for three days in the juice of Citrus acida, and make a ball of the mass. After having it dried in strong sunshine, insert it within a cruoible, athd roast it in the apparatus called Lavana Yantra for 12 hours. When cooled, add of part by weight of diamond to the roasted ball and pound well into fine powder.

Dose-2 graina to be mixed in honey and given twice a day.
Ther. use-Said to be useful in consumption, hoarseness of voioe, hectio fever, eto.
87. Maha vaatha vidhwamsi Rasa-

Meroury.
Kajitha bhasmam.
Abraka.
Kantha.
Lead.
Tin bhasmam.
Thalakaw.
Manoshila.

Hayya bhasmam.
Yemakshikam.
Lioha bhasmam.
Yearl bhasmam.
Mukthi bhasmam.
Gowri bhasmam.
Shanka bhasmam.

All in equal parts. Rab in the juice of Kodukalli leaves for one day, in Yerukkumpal one day, and heat in valuka yantram.

Add equal parts of powdered aconite to the sublimate and grind in lime juice and also in manathakali (tomato) juice.

Dose-2 grains to be mixed with honey and given twice a day.
Ther, use--Useful it all rheumatio pains, abdominal dropsy, anorexia and apthma.

## 88. Panchamrit Parpati-

Dose-2 to 8 grains, to be takon twioe a day.
Ther. use-Most effioacious medioine for eprue and bhronic diarrhoes.

## 89. Pradararipoo Raso-

Chief ingredients areKajali.
Naga bhaama.
Rasanjana.
Todhre.
Oinnebar.
Oalcined tin.
Fiztreot of Berberia aridate.
Symplocos renomoen.
Dose-1 to 4 pille, three timee a day with rice water.
Ther. use-Tonio, astringent and alterative; nsefal in leucorrhose and in obroniediarrhcem.
90. Panchabana Rasa-

The ingrediente of Panchabans Rase are moroury and sulphor, made into kajjali and pounded successively in the juice of the fruite of Phyllanthas Emblioa, of grapes, of Liquorioe, and of date for one day each.

Dose-2 grains.
Ther. nse-In general debility and in nervous exhanstion.
91. Ratnagiri Rasa-

Chief ingredients are-


Grind with the juice of Bhringaraja (Verbesins oalandulacea); muke like parpati by heating. Reduce it to powder; the powder is macerated, three times, in the expressed juioe or decootion of the following one after another, viz.-Moringa ptarygosperms, justicis adhatoda, vitex negundo, Acorus Calamus, the roots of Plumbago Zeylanica, Verbesina Calandalnea, Bhakadamba (Sphoeranthus Hirtus), Solanam Xanthooarpam, Tinospra cordifolia, Besbania souleata, the flowers of Sesbenia grandiflora, Gratiola moniera, Agathotes cheroyta, and aleo perfoliata. After this, enclose it in a orucible and heat in sand bath.

Dose-2 to $\mathbf{6}$ grains to be taken every three houre with dhanyak (Coriander) water until fever subsiden.

Ther. use-Alterative, diaphoretio ; useful in fevers.
As the preparation doee not contain aconite, it can safely be given where aoonite is contra indicated.

## 92. Rasa Ruja Rasam-

Chief ingredients are-


Pound these together in the expressed juice of Alce Indias, and add iron, vilver, tin, phyealis flexuosa, cloves nutmeg flowers, and Kshirakakoli each half a tola. Pound all thene again in the expressed juice of Solanum nigram, and prepare pills.

Dose-2 grains.
Ther use-Said to be neeful in all fevers.
93. Shwoasa Ohinthamani Rasa-

Chief ingredients are-

| Loha bhaems. | Oaloined iron. |
| :--- | :--- |

Gandhaka.
Abhral bhasma.
Sulphar.
Kajjali.
Calcined talo.
Makshika.
Mereury sulphide.
Mukta.
Suvaria bhasmam.
Iron pyrites.
Pearl.
Calcined gold.
Doso-1 to 4 pille, to be taken three times a day.
Ther. use-Alterative, tronic; nseful in cough, asthma, phthinis, anæmis, ohlorosic, general debility, etc.
94. Vishva Tap Haran Rasa-

The chief ingredients are-
Kajjali.
Tamra bhasma,
Nux vomica:
Croton seeds.

Merourio sulphide.
Calcined oopper.

Dose-1 to 4 pills with water when desjred.
Ther. use-Prurgative, diaphpretio and stimulant useful in chronic constipation, fever and chronic paralytic affections.
95. Vatha Kakshasam-

Kantha bhasmam.
Copper sulphate:
Naga "
Yemak-shitham.
Swarna "
Gowri bhasmam.
Silver "
Shankha bhasmam.
Rasa- "
Abrak
Burnt boraz.
Aconite bhasmam.
Merocrio sulphate.
Karpade
Haritharam.
Oroton.
Manoshila
Meroury.
Grind all these in ginger juice and heat in valuka yantram for three houra.
Dose-2 grains mired with honey and given twice a day.
Ther. uso-Paralyais, rheumatiem, and palarial fever.
96. Vatha vidhwamsi Rasa-

Mercury, snlphur; tin bhasmam, copper bhasmam and iron bhasmam. Piper longun,
Zingiber offioinale; pepper, abrak bhasmam. All in equal parts. Aqonite $1 \frac{1}{2}$ parta.
Kiub one day in each of the following juioes:-

1. Plumbago juice.
2. Vella Khandankathri juice.
3. Chundakaya juice.
4. Vavilli juioe.
5. Juice of the root of Datura stramonium.
6. Juice of Calatropis gigantea.
7. Ginger juice.
8. Lime juice.

Make pills to the size of one gundumani.-
Dose-2 grains to be mired in honey and given twice a day,
Ther. use-Useful in all repeumatio pains, abdominal dropsy, anoreris and asthma.

## APPENDIX IV.

Index and summary of the notes of the medioinee investigated.


Index and summary of the notes of the medicines invertigated-cont.


III-11

Index and eammary of the notes of the mediainee inventigated-anat.

| Number and natere of the dragt | Noten or drage. | Where -obtained. | Disenaes arad in | $\begin{gathered} \text { Toval } \\ \text { manobier } \\ \text { of nowe } \\ \text { trosted. } \end{gathered}$ | Pemartas an revite. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Avolehen, Grishame, Ayrwpe and ounfortione-conk | No. |  |  |  |  |
| 25. Neelivi gritham .. .. | 86 | $\left\lvert\, \begin{gathered} \text { Aryas } \\ \text { Vydyemena, } \\ \text { Ratakitel } \end{gathered}\right.$ | Dymmenorrhase .. .- | ¢ | Unemitiactory. |
| 26. Panohagaviya Ghritham ... | $96$ |  |  | 1 | Not notil. |
| 27. Byrupue-Ryesopas offioinalis. | 87 | 1 | Dyapopais ahronio beanobitiv, athmand amonorrbcee | 61 | Orofale in ampabo rhcere anolen. |
| 28. Byrap Brahmi $\quad$ - ${ }^{\text {a }}$ | 28 | B.O. Worka, Oalentes. | Epilopey .. $\quad .$. | 8 | Uneful. |
| Bhaomanns. |  |  |  |  |  |
| 29. Abral bhasmam (Ualaned | 29 | Zandu Pharmaty, | trianeter mellitua ... | 8 | Onful. |
| 80. Naga bhanmem .. .. | 80 | Do. | Aothma | 19 | Benetiolal. |
| 81. Thalakz bhasmam .. .- | 81 | $\begin{gathered} \text { Arya- } \\ \text { Vydyaiala, } \end{gathered}$ | Brouohitis attanded with fever. | 88 | Do. |
|  |  | Kotaktel. |  |  |  |
| 82. Sringa bhanasm 8. | 82 | Do. | 8peciflo urothritio .. | 08 | Not anofal. |
| 88. Vanga bhatmam 84. Yaseds bhasmum | 88 84 | Do. | Oonorrhoon ${ }^{\text {O }}$ | 9 | C |
| Ohurnams. | $8 \pm$ |  | Chromiog gatritio . | 0 | Giver rolisi. |
| 85. Bhoonimbadi churnam .. | 85 | $\begin{array}{\|l\|} \text { Zandu } \\ \text { Pharmaney, } \\ \text { Bomber. } \end{array}$ | Chronio diarthosa, dyeentery and ohronio gastritis. | 28 | Usoful but the ection is alow. |
| 86. Chaturushans oluarnepp | 36 | Do. | Blatalenoe and Intostinas | 91 | Ueeful. |
| 87. Jatipoladhi ohurnem | 37 | Do. | Aothras, jumbago and | 91 | Boneflaial. |
|  | 88 |  | Dyentery .. | 8 | Ueofal. |
| 89. Kappitheshtaka ohurnam | 39 | Zatrdn ${ }^{\text {c }}$ | A cute dysentery .. ... | 14 | Do. |
| - |  | Pharmaoy, |  |  |  |
| 40. Madanadhiraman .. .. | 40 | Eombay. <br> Do. | Aoute assem of bronchitia | 66 | Liflomiona. |
|  |  |  | and asthma. |  |  |
| 42. Compound powder of amijax chinensie | . 41 | Looal .. | Hheumatiem chronio .. | 8 | Not antal. |
| 42. Narahimhe oharnam -. | 42 | $\begin{aligned} & \text { Zandu } \\ & \text { Pharmaoy, } \end{aligned}$ | Atonia dyspepais and myalgin. | 6 | Giver reliof. |
| 48. Paokyanage oharaam | 48 | $\begin{gathered} \text { Bombay. - } \\ \text { Do. } \end{gathered}$ | SLenorrhagia and leacor- | 18 | Do. |
| 44. Panohakols ahamsm .. | 44 | Local | Atonio dyspepria, bronohial | 12 | Do. |
| 4t. Panoharola charman . | 44 | Local | eatarrb and bronohitis. |  | Do. |
| 45. Panohanimba charnam ... | 46 | Do. .. | Convaleseence alter malarial fevers. | 78 | Beneficial. |
| 46. Saffi-fai-giah ... .. | 46 | Do. .. | Aonte dyentery .. .. | 18 | Eticatioun. |
| -47. Shringyadhi churnam | 47 | Zandu Pharmacy. Bombay. | Infante enfering from diatrboem and bronohial troubles. | 84 | Benefidal. |
| 18. Suranadhi oharnam .. .. | 48 | $\begin{aligned} & \text { Drye- } \\ & \text { Vydyagala, } \end{aligned}$ | Piles and dysentery .. | 6 | Uselese. |
| 49. Shadushana ohurasm .. | 49 | Looat | Flainience and intentinal colio, bronohial andinasal ostarth. | 8 | Osofal. |
| 50. Vaishevanar ohurnam .. | 50 | $\left\lvert\, \begin{aligned} & \text { Zandn } \\ & \text { Pharmacoy. } \\ & \text { Bombay. } \end{aligned}\right.$ | Indi_ ion, loss of appetite and fatalent dyapepaiq with oructantions. | 22 | Benefloinl. |
| 61. ${ }^{*}$ Fadavanal churnam <br> Deooctione or quathe. | 51 | Do. | Chronio gastritis .. .. | 16 | Usefol. |
| 62. Bharangyadhi kashayam .. | $52$ |  | Asthmas | $18$ | Gave relief. |
| 6\%. Calatropis gigantea (C.D.) .. | 68 | $\begin{gathered} \text { Zandu } \\ \text { Pharmaoy, } \\ \text { Bombsy. } \end{gathered}$ | Bronohitis and influensa. | $80$ | Efficmoions. |
| 54. Ealingakadi (C.D.) .. .. | 54 | $\left\lvert\, \begin{aligned} & \text { Zandia } \\ & \because \text { Pharmacy, } \end{aligned}\right.$ | Malarinl fever .. .- | 19 | Not reefal.** |
| 65. Terminalia Arjans .. .. | 55 | $\begin{gathered} - \text { Bombay. } \\ \text { Do. } \end{gathered}$ | Falvalar diseases of the heart. | 6 | Do. |
| 56. Dásamoola :panchakoladbi kashayam. | 56 | Arya- | A soiteo with cirrhonis of the siver. | 10 | Deoful. |
| 67. Pathyadhi quath .. .. | 57 | $\left\lvert\, \begin{gathered} \text { Kolaicknl. } \\ \text { Zandu } \\ \text { Pharmaoy, } \end{gathered}\right.$ | Convalescence after. fover and hemiorania. | 15 | Do.' |
| 59. Suhacharadhi kishayam .. | 68 | Arya- <br> Vydsasala, <br> Kotakkal. | Cbronio rhenuatimm -.. | 4 | Unsatiafeotory. |

Index and eummary of the notes of the medicines investigated--cont.


## APPENDIX $\nabla$.

Statement showing the diseases treated by Ayurvedio and Unani mediciaes from 1st January to 81at Auguat 1920.

| Yiemes of the dimenes trueted. | Total No. of pritente | Noman of the dimarn treated. | Total petione troutud. |
| :---: | :---: | :---: | :---: |
| 1. Asthma | 139 | 36. Tmaia |  |
| 2. Bronohial catar | 158 | 37. Psorisain | 21 |
| 3. Coryza | . ${ }^{5}$ | 38. Soabiea | 113 |
| 4. Aonte bronohitis | 169 | 39. Chronio shin diveaees | 28 |
| 5. Chronio brondhitis | . 14 | 40. Alopmoia . | 1 |
| 6. Tuberoular phthisis. | .. 4 | 41 Ecrema . . | 9 |
| 7. Pneumonia | - 5 | 42. Prarigo | ${ }^{6}$ |
| 8. Palpitation of the heart | - 3 | 43. Ascario lambriooidea | 6 |
| 9. Valvular diseases of the heart | .. ${ }^{6}$ | 44. Tape worm | ${ }^{6}$ |
| 10. Influenza | 45 | 45. Menorrhagia | 22 |
| 11. $"$ broneho-pneumonia | 7 | 46. Dyamenorrhom | 29 |
| 12. Gaatric catarrh | 14 | 47. Lencorrhoes | 15 |
| 13. Colic intestinal | 19 | 48. Amenorrhces | 18 |
| 14. Atonio dyspepsia | .. 10 | 49. Gonorrhex | 20 |
| 15. Chronic gastritis | 174 | 50. Gleet | 4 |
| 16. Dilatation of stomach | .. 2 | 51. Syphilis | 7 |
| 17. Oonstipation | 294 | 52. Chronio rheomatiem | 78 |
| 18. Acute and obronic diarrhcos | 172 | 53. Gonorrhosal rheumatism | 20 |
| 19. Chronic enteritis | ${ }^{1} 8$ | 54. Aonte Bright's disesso | 8 |
| 20. Dysentery (aoute and obronic) | 252 | 55. Chronio Bright's disense | 2 |
| 21. Hæmorrhoids | - 6 | 56. Anæmia from ankylootomisses | 6 |
| 22. Pyrexia of ancertain origin | 83 | 57.10 dropsy | 4 |
| 23. Remittent fever | . 7 | 58. Malarial fever | 60 |
| 24. Typboid fever | .. 2 | 59. Catarrhal jaundice | 14 |
| 25. Epilepsy | .. 7 | 60. Cirrhosis of the liver and ascit | 6 |
| 26. Lateral seelorosis | 1 | 61. Locomotor atary | ${ }^{2}$ |
| 27. Hemiplegia | 14 | 62.-Biliunaness $\quad$. | 20 |
| 28. Hemicrania | 18 | 63. Infantile biliary cirrhosis | 5 |
| 29. Myalgia | 43 | 64 Dilatation of the heart | 1 |
| 30. Saiatica | . 6 |  | 80 |
| 31. Faoial paralyais |  | 66. Lsmphatie fever and elephantiasio | 11 |
| 32. Lambago -- | .. 8 | 67. Scrofula (tabereular glands) | 16 |
| 34. Diabetes inspidus |  | Total .. | 8,007 |
| 35. " mellitas | . 2 |  |  |

## APPENDIX VI.

The following single and compound drugs already mentioned in my first or aecond report have been given a further extended trial and I have here onl'y to confirm what I have mentioned about their therapentical actions in the notes attaohed to those two reports :-

Single drugs.

1. Trichosanthes Palmata.
2. Aconitum Heterophyllum.
3. Tinospora cordifolia.
4. Vernonia Anthelmintica.
5. Cleome Viscoes.
6. Euphorbia Pilulifera.
7. Oldenlandia Hernandifolia.
8. Ailanthus Malabarioum.
9. Picrorrhiza Kurroa.
10. Terminalia Arjuna.
11. Alstonia Scholaris.
12. Calotropis gigantea and procera.
13. Zingiber officinale.

## Basmams.

14. Abrak Bhasmam (oaloined 100 times).
15. Tamra Bhamam.
16. Vanga Bhasmam
17. Annabedhi Sindhuram.

Churname or powders.
18. Rohitake Oharnam.
19. Gangadhara Charnam.
20. Kalyankeharam.
21. Sudarsana Ohurnam.
22. Kirmani.
23. Swayamagni.
24. Constipation powder (Unani).
25. Avipatikar Churnam.
26. Aswaghandha Charnam,

Ointments, Thailame, etc.
27. Adithyapaka Thaila:
28. Dadrughns ointment.

29 Vidanga Thaila.
30. Vishagharbhe Thaila.

Pills.
31. Abhya modak.
32. Kanohanar Gugula.
43. Yogaraj Gugula.
34. Rasna Gugulu:
35. Mandura Vati.
36. Pranadhi gutika.
37. Punarnava Mandura.
38. Chandraprabha gatika.

Rasas.
39. Jatiphaladhi gutika.
40. Mriganka Rasa.
41. Mrithyonjaya Rasa.
42. Vathagni Kumaran.
43. Naracha Rasa.
44. Shanka vati.
45. Shwasakntara Rasa.
46. Ekangavera Rasa
47. Thribhuvana Keerti Rasa
48. Devakusumadhi Rasa.
49. Panoha Vakra Rasa.

50: Sxriti-sagara Rasa.
51. Agni-sooti Rasa.
52. ' Vatari Rass.
53. Nithyanandha Rasa.
54. Krimimudgara Rass.
55. Arogiavardhini pills.

Ghrithams.
56. Mahatiktha, Ghritham.

Quathe.
57. Amritadhi.
58. Saptaparna.
59. Dasamools.

## Bисеит.

60. Folipta Proatrata.

## Notoce on treatment of Leprocy.

I append a statement of leper patienta treated with Hydnooarpus inebrians. In the aotee on this drug, in my eecond report, I remarked "I have no doubt that Hydnocerpus inebrinas is a potent drag for ameliorating the loathsome complications of loprony." From che appended statement it will be evident that I have not been wrong in making that romark. Since writing the second report, thirty leper patients with oharaoteristio signe and aymptome have boen under treatment for varying periods. Ondy in a fow of thees, lepra beoilli ware found in naeel dicochargee From what I have seen of the resulta of the treatment, I must may they are very ennoumging. One of them has almost completely recovered. Looking et him now, it will bo diffloult to cay that he had previously suffered from the disease, if not for the contractures of the fagern of one hand whioh the dieease has left behind. This patient had two perfornting uloers, one on each foot and several anesthetic patohes all over the body. He is now able to attend to his svooationa as a Sanskrit Pandit. Eleven other patients have improved vory much under treatmenk I have marked as stationsry, all those patiente who have oome under treatment recently, i.e., within the last two months. The treatment adopted in all theese ceseg, exoept one, is the came as that mentioned in my second report, viz., preliminary purgation by purifed powdered croton needs for eight to ten days, thereafter ten minims doses of olenm Hydnocarpus inetrians in the morning, and 20 graine of confeotion of the kernel of the eeede of Hydnocarpus inebriana in the evening. Une patient, in addition to the above treatment, is being given twioe a week aubontaneous injections of solution of sodium Hydnooarpate (2 O.C) prepared at the Chemioal Examiner's laboratory. This patient is rapidly improving although he hat been under treatment only for ten weeks. Most of the patiente are atill onder treatment. These inolude four brothers aged 8 to 13 years. Their father who was a leper died two years aro of sonte dymentery.


## APPENDIX VIII.

List of drugs investigated from the commencement of investigation to 8 lot $A$ uguet 1920.

## First report.

1. Bombar malabarioum.
2. Bambuss Arandinaces.
3. Holarrhena anti-dysenterioa.
4. Oleome Viecoss.
5. Aconitum Heterophyllum.
6. Alstonia scholaris.
7. Asparagus racemosas.
8. Anisomelea
malabaricum.
9. Anaoyolus pyrethrum.
10. Areca oatechu.
11. Acorus calamus.
12. Adenema Hyseopufolia.
13. Andrographis paniculata.
14. Acaly pha Indica.
15. Artemisia maritims.
16. Ailanthus malabarionm.
17. Astercanthus Longifolia.
18. Amoors Rohithaka.
19. Bœerhavia diffusa.
20. Berberis aristata.
21. Brassica campestris.
22. Clerodendron serrata.
23. Cardiospermam halioacabím.
24. Croton Tigliam.
25. Casia tora.
26. Ooscinam fenestratum.
27. Anamirta cocculus,
28. Alstonia scholaris.
29. Aegle Marmelos.
30. Alpinis Chinensia.
31. Agathi Grandiflora.
32. Aristolochia bracteata.
33. Aristolochia Indica.
34. Amoora Rohitaka.
35. Andropogon Muricatas.
36. Aplotaxis auriculata.
37. Althm officinalis.
38. Bœrhaavia diffusa.
39. Bryonia scabrella.
40. Corallocarpus Epigoea.
41. Cassia occidentalis.
42. Cassia sophera.
43. Carthamus Tinctorins.
44. Cassia fistula.
45. Chirsta.
46. Clitores Ternatea.
47. Chavica Roxburghi or long pepper.
48. Cæalpinia (sappan wood).
49. Adahatoda V'asioa.
50. Semi carpua Ansoardinm.
51. Withania Somnifera.
52. Ipomes Turpetham.
53. Eelipta prostrata.
54. Butea froniose.
55. Vanda Roxbarghii.

## Second report.

39. Oalotropis gigantes and Proeera.
40. Cresalpinia Bonduoells.
41. Cassia Auriculata.
42. Chenopodium Ambrosioides (seeds).
43. Colycopterua floribunda.
44. Dæmia extensa,
45. Evolvulns alsinioidee.
46. Embelia Ribes.
47. Enphorbia Pillulifera.
48. Gudumal.
49. Gloriosa superba.
50. Hydnocarpus inebrians.
51. Herpestis monniers.
52. Hyposis orchioides.
53. Hydrncotyle asjatica.
54. Lipia Nodifora.
55. Lodoicea seychallarum.
56. Melia Azadirachta.
57. Nigella sativum.
58. Ooimom sanctam.
59. Piororrhiza karroa.

## Third report.

104. Cocoinia Indioa.
105. Cordia myxa.
106. Cassia alata (ringworm shrub).
107. Emblic myrabolans.
108. Enphorbia Neriifolia.
109. Eüryooma Lougifolia.
110. Erytbriaa Indica.
111. Eugenia jambolans.
112. Fumaria parviflors.
113. Hemidesmus Indions.
114. Holarrbena antidysenterica.
115. Hyssopus officinalis.
116. Indigofera aspalathoides.
117. Luffa Amara.
118. Michelia Champaca.
119. Mesua Ferrea.
120. Melia Azadirachta.
121. Mallotus Philippensis.
122. Malva ©ylvestris.
123. Melia azadarach.
124. Nelumbinm speciosum.
125. Oldenlandia Herbaceョ.
126. Gugula.
127. Oxalis cornioulata.
128. Silajatu.
129. Sida cordifolia.
130. Phyllanthus emblica.
131. Plumbego mes lanioum.
132. Podophyllum Emodi.'
133. Pedalium murex.
134. Ruta Auguatifolia.
135. Salamisri.
136. Toddalis A culcats.
137. Trichosanthen onoumerine
138. Triohosanthes Palmata.
139. 'T'erminalia Arjuna.
140. Taxue-Bacota
141. Thespesia populnes.
142. Tinospora cordifolia.
143. Tribulus terrestris.
144. Urginea Indica.
145. Viola odorata.

75 Vernonia Anthelmintiaa.
76. Vernonia cinera.
77. Valeriada Indioa.
78. Woodfordia floribunda,
79. Zingiber officinale.
80. Ophiorrhizs mangosa.
81. Gomathram or cow's nring.
126. Oldenlandia Umbellata.
127. Odifa wodier.
128. Pistia Stratioter.
129. Psoralia corylifolia.

1\&0. Pinus Deodare.
131. Plantago Ispaghula.
132. Rhus Sucoedanea.
133. Saraos Indicn.
134. Soindapsus pertusa.
135. Emilar chinensia.
136. Soymida febrifuge.
137. Bphæranthus Hirtrus.
138. Solanam ferox.
139. Solanum Trilobatum or trifoleatum.
140. Solanum Ipdicum.
141. Solanum jacquini.
142. Terminaiis Arjuna.
143. Tinospors cordifolia.
144. Tephrosia purpurea.
145. Tylophora asthmatice -
(country ipecac)
146. Tragis Cannabina.
147. Vernonia Anthelmintica.

List of compound preparations investigated from the commencement of investigation to 31st Angust 1920.
First-Report.

1. Karpooradhi Charnam.
2. Talisyadhi Ohurnam.
3. Worm powder.
4. Trivrit Charnam.
5. Anandha Bhairavi.
6. Dadhamashtaka Ohar nam.
7. Leghu Sudarsana Churnam.
8. Brihat Sudarsana Churnam.
9. Panchthikthaka Panakam.
10. Zoofa.
11. Kutajapanitbum.
12. Bhaskara Lavanam.
13. Leghu sanka Dravakam.
14. Itbraphal.
15. Jawarish-ai-kamoon.
16. Sidha Bhasmam.
17. Purnachandrothayam.
18. Narayana Tbailam.
19. Agnithondi pills.
20. Specifio powder.
21. Panchathikthaka decootion.
22. Loha Bhasmam.
23. Specifio oil for syphilis.
24. Do. for diabetes mellitus.
25. Vathagni Kumaran.
26. Iron Kalpam
27. Deooction Glyeyrrhiza Cc.
28. Yogaraja Guggula.
29. Swatohanda Bhairavi pills.
30. Nellikaya Leghyam.

## Second Report.

31. Abbrak Bhasmam,
32. Ooral Basmam.
33. Mukti Basmam.
34. Makshika Brsmam.
35. Raupya Brsmam.
36. Tamra Bhasmam.
37. Annabedhi sindhuram.
38. Ashta Churnam.
39. A vipatikar Churnam.
40. Arkamoola Churnam.
41. Chithrakamuladhi Churnam.
42. Unani componnd cough powder.
43. Compound constipation powder.
44. Eladi Churnam.
45. Gangadiara Uhurnam.
46. Kalyanaksharam.
47. Lavangadhi Churnam
48. Musalyadhi Churnam.
49. Powder for inhalation in influenza.
50. Rohitaka Churnam.
51. Swayamagni.

## Second Report-cont.

52. Swadishta Virechena.
53. Saraswathi Charnam.
54. Amritha Bhallataki.
55. Amritha Prasa ghritha.
56. Ahhyamaliki.
57. Aдzai-raisah.
58. Brahmi ghritham.
59. Chyavanaprast.
60. Dasamoola Rasayanam.
61. Lashunadhi Ghritham.
62. Majoonai Khuvathiaibha or manly power.
63. Kushmanda Rasayanam.
64. Shrirag.
65. Abhyadhi quath.
66. Dasamoola quath.
67. Gudooohyadhi quath.
68. Drakshasava.
69. Kutajarishta.
70. Loha asava.
71. Adithyapaka Thaila.
72. Aswaghandha Bala Lakshadi Thaila.
73. Chakramartha Thaila.
74. Drdrughna ointment.
75. Ksheerabala oil.
76. Compound oil of vitex negunda.
77. Fanchavalkaladi Thailam.
78. Vidanga Thaila.
79. Vishagarbha Thaila.
80. Abhayadi modak.
81. Amritha Gugulu.
82. Chandraprabha Gutika
83. Dhanwantari pills.
84. Gokshuradhi Gugulu.
85. Mandura Loha.
86. Funarnava Manduram.
87. Shoathahar Loha.
88. Trayodashanga Gugulu.
89. Yogaraja gagula.
90. Agnithundi Rasa.
91. Agni Rasa.
92. Agnisooti Rass.

9 f. Arogyavardhini pille.
94. Agnikumara Rasa.
95. Brihat Chendrodayā Makardhwaja.
96. Devakusumadi Rasa.
97. Ekangaveera Rasa.
98. Jatiphaladhi Gutika.
99. Jaladorara Rasa.
110. Krimimudgara Rasa.
101. Kanakasundara Rasa.
102. Lakbshmi vilas Rasa.
103. Mriganka Rasa.
104. Mahamrithyanjaya Lnha.
105. Mahalakshmivilasa Rasa.
106. Maba Jwaranknsa.
107. Mrithyunjaya Rasa.
108. Nithyananda-Rasa.

109: Naracha Rasa.
110. Narayan J warankusa.

## Third Report.

111. Panchavakra Rasa. 11:. Ramban Rasa.
112. Shwasakutara Rasa.
113. Sarwanga Sundara Rasa'
114. Smritiaagara Rasa.
115. Sanka Rasa.
116. Tribhuvan Keerti Rasa.
117. Trailokia Chinthamani hasa.
118. Vatari Rasa
119. Vadavanal Rasa.
120. Vatharaktiauthaka Rasa.
121. Vasanta Kusumakar Rasa.
122. Maha Yogaraja Guggulu.
123. Chathurmuka Rasa.
124. Mahatiktha Ghritham.
125. Pranadhi gutika.
126. Rana Gugula.
127. Kanchanar Guggulu.
128. Chandrodayan No. I (Euvarna Ghatit Makharadhwaj).
$\Delta$ ristas
129. Abhaya arishtam.
130. Pippali Arishta.

## Asavas-

132. Kanaka asava.
133. Kumara asava.

Avalehas, Ghrithams; ayfups
and confeotions-
134. Asoka Ghritham.
135. Annos-daroo.
136. Agretya rasayanam.
137. Confection Dhaiphal.
138. Dhatryavaleha.
139. Dava-nl-mnek.
140. Gulgulu thikthakam.
141. Javarish-ai-amila:
142. Jsvarish-ui-sulamani.
143. Javarish-aj-tharash.
144. Kantakaxi Avaleha.
145. Khamair-ai-Abrashim.
146. Laboobai sagheer.
147. Mamsa sarpishi.
148. Majoonai mussif.
149. Majoonsi sual.
150. Majoonai-malarial fever.
151. Mabatiktha ghritham.
152. Mahjum-e-tel.
153. Madhusnuhi rasayanam.
154. Neelini ghritham.
155. Panchagaviya ghritham.
156. Syrupus hyssopus offioinalis.
157. Syrup brahmi.

Bhasmamo-
158. Abrak Bhaemam.
159. Naga Bhasmam.
160. Thalaka Bhasmam.
161. Shringa Bhasmam.
162. Vanga Bhasmam.
163. Yasada Bhasmam.

## Third Report-cont.

Charnams-
164. Bhoonimhadi Ohurnam.
165. Cbaturushana Churnam.
166. Jatipoladhi Chornam.
167. Katphaladhi Ohurnam.
168. Kapithashtaka Ohurnam.
169. Madanadhivaman.
170. Antirheamatio (Unani) powder (Smilax chin ensis).
171. Narishmha Chornam.
172. Pushyanuga Charnam.
173. Penoha kole churnam.
174. Panohauimba Charnarn.
175. Saffo-fai-siah.
176. Shringyadhi Charnam.
177. Suranadhi Churnam.
178. Shadushana Churnam.
179. Vaishvanar Churnam.
180. Vadavanal Charnam.

Decootions or quathe-
181. Bharangyadhi Kashayam
182. Calatropis gigantea.
183. Kalingakadi (C.D.)
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## THE REPORT OF THE COMMITTEE

## on

# THE INDIGENOUS SYSIEMS OF MEDICINE 

## MADRAS

Part II-Written and Oral Evidence.

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Obyice or the Commitith on the
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Dated Madras, dst July 1924.

No. M-6.
From
Khan Bahadur MUHAMMAD USMAN SAHIB Bahadur, baa, Chairman of the Committee on the Indigenous Systems of

Medicine, Madras..
To
The SECRETARY to the GOVERNMENT of MADRAS, Ministry of Local Sblp-Gofkrnment, Ootacamund:

Sir,
In continuation of my letter No. 24-M. of 17th February 1923 forwarding the first part of hie Report of the Committee on the Indigenous Systems of Medicine appointed under G.O. No. 1351. P.H., dated 17th October 1921, I have now the honour to forward herewith the second part of the Committee's Report containing the written evidence of certain selected witnesses as also the oral evidence of all the witnesses examined by the Committee.
2. In doing so, I consider it my duty to bring to the notice of the Government the following resolution which was unanimously passed by the Committee at their concluding sitting at which the report was finally discussed and approved :-
"This report would not be complete if we do not place on record our high appreciation of the invaluable services rendered to the Committee by the Secretary Dr. G. Srinivasamurti. He has given evidence of great ability, indefatigable energy, thorough grasp. of the subject and sound judgment in the discharge of the delicate and difficult work which he had to do. His keen sense of fairness as a student of Science has contributed not a little to his arriving at conclusions, unbiased and impartial. We therefore take this opportunity of tendering our most grateful thanks. to him."

> I have the honour to be,
> Sir,
> Your most obedient servant,
> MUHAMMAD OSMAN, Chairman of the Committee on the Indigenous Systems of Medicine.

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## MAHAMAHOPADHYAYA KAVIRAJ GANANATH SEN <br> SARASWATI, w.a., i.m.s., OF CALCUTTA.

Q. 1. Ayurveda.
Q. 2. (a) The theory or theories of the oansation of disease exaotly acoording to the Ayarvedio aystem may be summarized as follows, the oauses being first of all divided into extrinsic and intrinsio :-
I. Extrinsic causes (बाह्यहेतु or Nidan) oomprising-
(A) General or indirect canses desoribed as " deficient, excessive or perverted unse or inoidenoe of -
(i) the speoial senses,
(ii) the general functions of the mind and body, and
(iii) the seasons."
(of. न्रीण्यायतनानि-अर्थोनां कर्म्मणः: कारस्स च अयोगातियोगामिथ्यायोगा: । et seq. Charaka, Sutra. Chap. XI).

(B) Speoial or direot earses (अंगन्तु) meaning-
(i) Traoma (अभिषातादि)
(ii) Poisons (विष) mineral or organio (including miorobio and animal poisons).
(iii) Hypnotio influenoe (e.g., अभिचारादि) or sudden mental impulses (कामकोषादि).
Y. $\mathcal{B}$,-These oansea produce Agantw diseases, the word Agants being employed to mean Tranmatio and other diesases canned by endden extraneous influences.

> (of. "ये भूतविषवाख्वग्मिक्षतभंगादिसम्भवाः ।
> कामकोषभयाद्याश्ये ते स्युरागन्तवो गदाः ॥।
> Bagbhat-Ashtanga Hridaya, Chap. iv)

Now these extringio canses or Nidanas (as they are called) produoe morbid conditions in two ways : either indirectly by oansing a preliminary derangement of the Doshas or guiding prinoiples (as in group A) or directly by oassing injury and pain first and derangement of the goiding prinoiples later on (as in group B). The guiding prinoiples or the Doshas (Vayu, Pitta and Kapha) will be explained later on.
(of. आगन्तुर्हि व्यथापूर्मुतुपन्नो नघन्यं वातपितश्रेष्मम्मणां वैषम्यमापादयति । निजे तु वातपित्तश्रेप्म|णः पूर्व वैषम्यमापघ्यन्ते, जघन्यं ठ्यथामभिनिर्वर्त्तयंन्वि ।।

Charaka-Sutra, Chap. XX).

II. Intrinsic causes comprising:-
(A) Dhatu Vaishamya (धातुवैषम्य), i.e., the derangement or distarbance of the equilibriam of -
(i) Doshas or the guiding prinoiples of Physiologioal life (viz, $\boldsymbol{V} a, \kappa$, Pitta and Kapha) and
(ii) Dushyas or the tissues, seoretions and exaretions (घातु \& मल) in which manifeatatipns of the deranged Doshas ocour.
(B) Guna Vaishamya (गुणैवषम्य) the derangement or disturbance of the equilibriam of the gunks (the gaiding prinoiples of mental life) meaning however, only two of the three
gunas here, vix., Rajas and Tamas (se Sativa, the highest principio, in not oapable of rond distarbanoe). Roughly apeaking, theese two (-Rajas and Temas) imply the mental principle of Volition (or impulsiveness) and inhibition.

# (cf. "वायु: पिर्व कफश्रेति जारीरो दोषसंग्रहः । <br> मानसः पुनरुद्धिष्टो रजश्र तम एव च $11 "$ <br> Charaka-Sutra, Chap. I). 

Whilst on this subjeot, I think it necessary to explain the theory of Vayn, Pitta and Kapha, which begins where modern Physiology ends ; for it endeavours to explain all physiologioal processes as also the principles which guide them. It in too elaborate a anbject to bo desoribed here fully. I may refer you to the following conoise atatement contained in my Benares Hinda University address on ' Hindu Medioine, 'to give you a rough idea of the theory.
"The theory of Vayu, Pitta and Kapha was also a great discovery, which onfortunntely hae been mach misunderstood by Western Scholars judging by the wrong meroenary tranasotions, rendering these terms as 'Wind, Bile and Phlegm.' The proper explanation of this theory will take up a treatise by iteelf, but let me observe here in paseing that the word Vayu doee not imply 'Wind' in Ayarvedic literature, but comprehends all the phenomena whioh come under the functions of the Central and Sympathetic Nervous Systems ; that the word Pitta does not essentially mean Bile but signifies the functions of Thermogenesis or heat production and metabolism, comprehending in its soope the process of digestion, coloration of blood and formation of various secretions and excretions which are either the means or the ende of tisaue-comburtion, and that the word Kapha does not mean Phlegm bot is used primarily to imply the funotions of Thermo-taxis or heat-regulation and secondarily formation of the varions preservative fluida, e.g., Mucus, Synovia, etc., though the crude products of Pitta and Kapha have also been cometimea oalled by these names. We regret, we cannot do justioe to this anbject here for want of apace but we hope the above would give a olve to the student who means really to investigate. It must be remembered that the theory of Vayu, Pitta and Kapha is not the same as the old exploded humoural theory of the Greek and Roman Physicians who, though they borrowed the idea from Aypurveda, failed to grasp the true meaning of the theory. I am convinoed that the trath and value of the Ayurvedic theory can be verified. It affords sensible explanations of certain otherwise inexplicable facte in the causation and amelioration of diseasea sud their symptoms. It can also guide you in anderstanding the lawe of general Therapeatics which it would be much to the advantage of any medical man to learn. I dare say that studying the subject with an open mind, he will be converted to believe in the theory. As we find in daily practice, even the half-educated Ayorvedic Physician who remembera the laws of Aetiology and Therapentios and dietary hinging upon this theory fares pretty well by the bed-side of the patient.

To be more explicit, I may add that these principles, known as Vaya, Pitta and Kapha occur in two forms :-
(1) An invisible or essential form, which mainly guide the physiological processea pertaining to them severally, and
(2) A crude or visible form, the products (as secretions or exoretions) of those processes induoed by these essential forms.

The relation between the two forms is very close, so that the derangement of the essential form of one prinoiple gives rise at once to increased or morbid secretions and excretions of that principle. The failore to recognize the difference between these two forms of the prinoiples has given rise to the erroneous rendering of Pitta as 'Bile' and Kapha as ' Phlegm.' The rendering of Vayu as ' wind' is preposterous and has bronght unmerited obloquy on the theory (vide my Sanskrit work 'Siddhata Nidanam ' Chapter I for a fall exposition of this sabject). Finally, now that so mach is being talked and written about the Bacterial or Germ theory of the cansation of diseases, I think, I should juat indicate to yon what, according to Aynrveda, is the role of germs (jeevanus) in the causation of disease. In the disconrse given above, we have seen that the canses of disease are considered under two main heads, Bahya (extrinsic) and Abhyantara (intrinsic) and that germs are considered as Bahya canses, coming under the sub-heading 'Agantu' which covers Traumas and poisons of all sorts, including toxins of germs. But accord* ing to our Rishis, the germs, by themselves, are powerless to canse disease, unless the field (井苐) is suitable for the growth of the seed, or as the ancients would put it, unless the constitution was undermined by non-observance of Brahmhyacharya (eelibacy or regulated sexnal function) and other rales of health, as described in the Dinacharya, Ritucharya, ete., of A yurveda. It is the non-observance of such health-ensuring practices that make us easy preys to germs, which were powerless in the case of those holy persons who kept their bodies pure and strong by the observance of self-control and regular healthfol habits. To my mind, this is the reason why, in Ayurveda, germs do not occupy the all-important role that they do in the Western Medicine of to-day. That our ancients did recognize their existence and their potency for mischief is amply elear from the writings of our Rishis. For instance, in dealing with the Nidan or cansation of Kusthas (some forms of leprosy and other parasitic alin indiseases), Bushrata says :-

[^0]" All kinds of Kushtas show the derangement of Vayu, Pitta and Kapha and alao Krimit or miorobes. Yaghbhata, following Charaka, is even more explieit in the matter :-
> "रक्तवाहोसिरास्थाना रक्तना जन्तवोSण्वः।
> अपादा वृत्तताम्राश्र सौक्ष्म्यात् केचिददर्रनाः ॥
> केशादा रोमविध्वंसा लोमह्वीपा उ़दुम्बराः।
> षट् ते कुष्ठैककर्म्माणः सहसौरसमातरः ॥".
> (Ashtangalirid-Nidan, Chap. VII.)

The reference here to ' Fine living bodies, so fine as to be incapable of detection by the naked eye, as the sole cause of Kusthas' is unmistakable.

Sushruta has also definitely enumerated certain diseases as 'Germ-caused,' e.g., Léprosy, Erysepelas, Carbuncle, certain skin-affections as also certain forms of splenio enlargement, absoesses, tomours, etc. (Sushruta-Sutra, Chap. XXIV). Similarly, speaking of 'Germ-caused? contagious diseases Sushruta says:-
> " प्रसङ्गात् गात्रसंस्पर्शान्नि:श्वासाव् सहमोजनात्।
> सहशय्यासनाचापि वस्त्रमाल्यानुलेपनात् ॥
> कुष्ठं ज्वरश्व शोषश्न नेत्राभिष्यन्द एव च।
> औपसर्गिकरोगाश्र संकामन्ति नरान्नरम् 11 "

(Sushruta-Nidan, Chap. V.)

"By repeated bodily contact, by breathing, by sharing the same food, bed or seat; and by the use of clothes, garlands or fragrant pastes used by another, such diseases like Leprosy, certain fevers, consomption, ophthalmia and other contagious diseases, spread from person to person.? It is of course possible to argue that as the term ' Krimi' include organisms, visible to naked eye, the mere mention of same as a causative factor in disease is not enough to show that the disease is caused by 'Jerms' as understood by the West. In reply to this, we have only to point out that the Rishis have classified 'Krimis' as' (a) those visible to naked eye and (b) those too minute to be so visible ( cf . सौक्ष्यात् केचिदद्दर्शना:) ; and there is definite mention of the latter olass of organiem in our texts (see above). To oite another example, Sushrata, in the chapter entitled 'Treatment of Krimiroga,' desoribes several kinds of krimis and then proceeds to say " केशादाद्यासत्वद्यास्ते I" ( of these, the first thirteen kinds of krimis may be seen with the naked eye) while ' Keshada' (i.e., those destroying the hair follicles) and others are invisible, Again, inoluded in this latter category of invisible 'Krimis,' we find among others, the group of 'Kushtha-Krimis' that is, invisible organisms, generating Kushtha (leprosy and parasitic skin-diseases).

Now, as to whether the theories of oausation, as found in A yurveda, stand the test of scientifio oriticiem. In my opinion, any but the most superficial judge would admit that the theories are based on sound logical and soientific grounds. I believe, a closer study and observation of the laws hipging apon theories should bring conviction to any open mind, though the theory of Guna-Vaishamya the oanse of mental diseases is rather a bit too abstruse and presapposes a preliminary training in Hindu Philosophy.
Q. 2 (b). The principles and methods of diagnosis and treatment can be but dealt with briefly and in sections here :-
I. Principles and methods of diagnosis.-Says Sushruta :-
"There are six ways or agencies through which diseases can be definitely known-by the five senses and by interrogation." (Sutrasthan-Chap. XI).

This statement is followed by instances of the various phases of diseases which can be known by these agencies. Hence the above principles reduce themselves to the following methods of diagnosis:-
(i) Sravani Pareeksha (श्रावणी परीक्षा) or "Auseultation ©. various sounds heard in diseases of the chest, as also the orepitus of fracture, have been mentioned as amenable to examination by the sense of hearing. Perhaps the auscultation employed was direct (as it was before nation invention of the Stethescope by Lennee in Europe) but the-prineiple was clearly recognized.
(ii) Twoächī Pareeksha (ताची परीक्षा) Touoh and palpation; by which are known heat and coid, size and position and consistenoy of organs, ete.

The pulse of course comes nnder the same heading but dinical observations and minnte :analyses of the pulse-waves as felt at the wrist appear to have been made with grest ancoese from
the olinioal point of view. This aubjeot in fact became a erparate attudy and the ancoese of the Ayarredic phyaicians in sarmising and foretelling certain haote and aymptame and oren the probable time of death from pulse alone is still proverbial.

By means of sphygmographio tracings, I am endesvouring to give this anbject a defnite and demonstable shape and it would be worth the while of any olinician to atudy the oubject thoroughly from the view-point of A yorvedic olinicians.
(iii) Chäkshushee Pareeksha (चाक्षुष्षी परीस्का) or inspection, by which are known pooition, gait, oolor, oantour, etc.
(iv) Ghräni Parceksha (gाणी परiक्षा) or examination by the amell, by whioh is known the amell of discharges, pus, eto.
(v) Räsani Pareekshā (रासनी परीक्षा) or examination by the sense of taste (Buahrute).

Charaka takes much objection to this method of diagnosis and the method is now rightly obsolete. We may note however that even at the present day, this method of examination sarvives in oertain medico-legal examinations (Stass Prooess).

In this connexion, it may be noted that various instruments (Tantras) like eeveral kinds of speoula, sounds, eathelers, ete., were employed in diagnosis. (Vide Sushruta, Butra Chap. VII and Vagbhat's Ashtangahrid-Sutra Chap. XXV).
(vi) The sixth method of diagnosis is by questiono-Interrogation. The history and some subjective and objective symptoms are ascertained by this method.

So far for the methods. As for the Data of Diagnosis to be found out by thene methode, they are considered under five headings, viz.-
(1) Nidan (निदान) or extrinsio oanses which probably started the disease. Very often this gives a clue to diagnosis (e.g., Trauma).
(2) Puroa Rupa (पूर्व रूप) or Prodromata whioh often point to the diagnosis in come diseases.
(3) Rupa (रूप) or the 'symptom-group' whioh seem to oonstitute the disease definitely.
(4) Opashaya (उपशाय) or the tolerance or intolerance of certain kinde of food, medicines, exercises, eto., considered as important aids to diagnosis.
(5) Samprapti (सम्पाषि) or the morbid anatomy and pathology of diseases, particularly with a view to the determination of doshic derangement (i.e., the disturbanoe of the guiding principle or prinoiples involved).

Besides these, the physician has been en joined to take note of 'the partioular type of the disease, the involvement of organs other than those direotly affected, the elimate, the strength , and the power of digeation and the temperament of the patient, his age, habite of living, eto., 'in order to arrive at a correct diagnosis and to decide apon the proper line of treatment (vide Vagbhat's-Ashtangahridya, Sutra Chap. XII, verses 66 to 70).

Says Charaka-' One who does not enter, with the lamp of knowledge, the very innermost parts of the patient in order to arrive at a correct diagnosis, can never treat the disease properly.'

$$
\begin{aligned}
& \text { आतुरस्यान्तरात्मानं यो नाविशति रोगवित् । } \\
& \text { ज्ञानबुद्धिप्रदीवेन न स रोगान चिकित्सति ॥ } \\
& \text { (Charaka-8utra, Chap. XX.) }
\end{aligned}
$$

It would not, I hope, be out of place to add a word here in reference to diseases not clearly described in Ayurveda. Following our great masters Charaka and Sushruta, I have explained elsewhere how certain diseases change their type, how certain others disappear in course of time, while yet others appear as new diseases :-

> दोषदूध्यगणेऽमिन्ने संमूच्छनविशेषत: ।
> अद्टद्टदेशकालादिपरिणामादनेकषा ॥
> पुराणाः प्रविर्लीयन्ते नर्वीना: प्रादुरासते ।
> विमिद्यन्ते स्थिताश्राथ नणां नानाविषा गदा: ॥
> (Biddhanta Nidanam, Chap. I)

If our Western brothers have recognized and descriked these new variations, wisdom would lie in learning from them whatever is worth learning; and it is no slight to our revered masterb
to reoognive that a oertain disease or morbid condition，not existing at all or existing only as a rarity in their time（and therefore not desaribed or only corsorily described）is now described elaborately by our Western colleagues．As the great Charaka himself says ：－

> बिकारनामकुझलो जिहिएयात्न कदाचनं।
> न हि सर्वविकाराणां नामतोऽस्ति भ्रुवा स्थितिः ॥
> (Charaka Sutra, Ohap. XXVIII.)
－＂The physician need not be ashamed becanse he is not conversant with the names of all possible diseases，for all diseases have not been yet definitely recognized by name．＂，＂Again there is no end to the Medical science，hence you should oarefully devote yourself to it．＇Then again， ＇skilfulness in practice should be acquired from others without feeling any homiliation．Unto men of．intelligence，the entire world acts as a teacher；unto men destitute of intelligence the entire world appear to be hostile；hence the wise should listen to and follow the precepts of even an enemy when they are instructive，praiseworthy and healthful and when they show the way to progress in the world＇（Charaka，Chap．VIII）．How I wish，our Western colleagues also remembered this maxim！

II．The principles and methods of treatment．－This is again too big a subject to be dealt with in a few words．The sine qua non of proper treatment is of course proper diagnosis（as explained above），particalarly with a view to our＇Tridosha＇pathology．This done，we have to ascertain whether we have to fight the intrinsic cause（i．e．，घातुवैषम्य）or the disease itself（व्याषि）；also whether the oase is साध्य or easily ourable；कृंच्छूसाध्य or curable with diffioulty or असाध्य or incurable．The last group of cases is either not treated at all or treated only to make the disease याप्य or tolerable．

Now，let as first consider the medical side of treatment．First of all，we take note of the Samata（सामता），i．e．，presence or absenoe of anto－intoxioation in every disease．If anto－intoxica－ tion is present，we treat the patient by fasting，parging，etc．，within the limits of patient＇s strength and toleranoe（of．＂बलाधिष्ठानमारोग्यं यदर्थो Sयं क्रियाकम：＂）till the symptoms of auto－intoxication disappear．These symptoms have been stated very clearly in a general way as also in partioular for different diseases．This line is called Samshodhan（संशाधन）or＇olear－ ing－up＇treatment．As an example of this，may be oited fasting or purging in some fevers as the first course of treatment．If there is no anto－intoxioation，we treat the disease directly（e．g．， giving a febrifuge in fevers）．This is called Samshaman（संरामनं）or＇putting－down＇treatment． Both kinds of treatment are of course done with a clear grasp of the Doshic derangement，the removal of which is considered the ulimate goal of treatment．

In this connexion，it is worth while to mention that there are five methods（पक्षकर्म⿱㇒⿵⺆⿻二丨力刂）of the Samshodhàn or＇clearing－up＇treatment．These are ：－
（1）Vamana（वमन）or the use of emetios or washing out the stomach．
（2）Virechan（विरेचन）or the use of purgatives with a view to clear the upper or lower bowels．Numerons purgatives have been desoribed to suit varions cases．
（3）Shiro－Virechan or the use of Errhines to promote the nasal＂secretions in diseases of the nose and throat generally，in some diseases of the oye（as glancoma）and in some forms of intractable headache and cerebral diseases．
（4）and（5）＇Asthapan＇and＇Anuvasasan，＇known collectịely＇Vastikarme＇（वस्तिकम्म） which comprise the various forms of enemata known and unknown to the Western Science．To encumerate some of these，we may mention－
（i）Shödhona Vasti or Niruha made up of medicated alkaline flaids for olearing out the
colon．
（ii）Snehana Vasts or Anuvāsan made up of similar flaid with copions oily subetances in it－for clearing out the colon and soothing the pelvio nervous system．
（iii）Pichcha Vasti－macilaginous enemata used as emollients to sooth the inflamed mucons membranes of the colon in colitis and other diseases．
（iv）Brimhana Vasti－or nutrient enemata，used not only in extreme cases，where feeding by the mouth is not possible，but also in ill－nourished patients who can take by the month．
（v）Bheshaja Vasti－or medicated enemata（of．Bromide and ohloral injection in Western medioine）．

And ao forth，handreds of drugs and reaipes are desoribed，for use under each of the heads above enumerated．So muoh indeed was the reliance in Vasti Karma in certain diseases that we read－

## वस्ति चिकिस्सार्दमिति ज्रुवन्ति

सर्वां चिकिस्सामपि बस्तिमेके।
（Charaka－Siddhi，Chap！I．）

## " Enemats conctitute balf the treatment-if not the whole treatment-men corce phyaininne

 "think ${ }^{*}$Use of douge-Materia Modica and Therapoutice.-As to the noe of dragn. I should like to note that the Ayorvedio Materia Medica and Therapention is replete with the demoriptione of the action of draga expressed in the terms of the Tridosha theory an well as in olowr otatomento abont their effects on oertain organs of the body and their vees in certain diseanes. Of courne these desoriptions, in terms of the Tridosha theory and other teohnioal namee (as बिकात्रि, व्यनायि, eto.) which are a sealed book to those who have not learnt to tranalate them into ' Physiologioal action ' as the West now anderstands it. The consideration of drags acoording to Rase (रस) or Taste, Birya (वीर्य्य) or heating or cooling effeot, Vipaka (विपाक) or the chemical inverviona undergone, Guna (गुण) or general qualities speoifying the physiological effecte and Prabhave ( $\quad$ भाव) or the inexplicable selective action of drags in particular disenapo-is an admirable feature of Ayurvedic Materia Medica worth the careful stady of any scientifio worker.

Here, I would atrongly repudiate the aweeping oharge made in some quarters that Ayarvedio drags are used empirically. In fact, there is less empiricism in Ayurvedio praotioe than we find in the practioe of Western medioine. Besides, there seems to be a strange idea in some quarters that the sucoess of the Ayorvedic physioian depends muoh on the high effloany of individual indigenous drags. This idea, the main-spring of action in the so-oalled 'Reeearrohes in indigenous drags ' of which we hear so mach in these days, is simply erroneons. The sucoens of the Ayorvedio physioian is due not to the 'charm' of this or that drag but to bis olear grasp of the Doshic derangement and his seleoted and well-considered treatment of that derangement, according to well-defined principles of Therapeatios.

As to the forms in which medicines are given $I$ should like to point out that frosh juiors (खरस), powders (चूर्ण), infosions (फाण्ट) and decootions (काथ) are always preferred to preserved drage in view of the 'Vitamines ' and other aotive principles found only in fresh drage. The use of minerals in the form of very finely powdered (often in palpable) oxides and oolloids is also a special feature of Ayorvedic practioe, which saperficial observers have oceasionally tried to be little by their meagre bat vaunted knowledge of Chemistry. They seem to forget that there are numerous nnassailable facts in Therapentics, whioh present-day Chemistry is not yot advanced enough to explain.

It should be further remembered that there are handreds of drage-vegetable, animal and mineral, used widely by Ayurvedio practitioners whioh their know-all Western-trained rivala have not even heard of yet. Some of these are: Black and Red Sulphides of meroary (कजुली, रसपर्पटी, रससिन्दूर, मकरध्वज, eto.), various forms of Iron-oxides (लौह्मस्म) which, by the way, are far more assimilable and mach less constipating than Western preparations of Iron, Tin oxides and Chlorides (वंगभस्म), Zinc Carbonates (खर्परभस्म), Shilajatu (शिलाजनु)- valuable bituminous drug highly effective in urinary diseases, Gorochana (गोरोचन) the gallaton+s often found in the Bovine gall-bladder and handreds of Vegetable drags like Bemiearpua Anacordium (मझ्ठातक), Achiranthes Aspera (अपामार्ग). Triphala (three myrobalans), etc. But to the bigotted and prejudiced medical man trained in Western medicine alone, these remain a closed subject because he would never care to stady them ander proper gaidance.

Dietetios is also a subject of great importance to the Ayurvedic practitioners. He does not believe in the dictum, "Oh, take anything you like"! He has studied the subject carefully on his own prinoiples and is able to cure many diseases only by regulation of dietary.

So much then briefly as to the medical side of treatment. Let me now refer yon to the salient points as to the Surgical Side. These are :-
(1) Surgical Instruments.-It will perhaps come as a surprise to many that most of the modern surgical instruments are acourately desoribed by sushrata and Gagbhata. I have demonstrated this in my lectures before the All-India Ayorvedic Conference at Poona and Caloutta and the Sahitya Sabha of Caloutta, notes of which have appeared in the Indian Medical Record. Various forms of bandaging, splints, eto, are also to be found clearly described, and appear to be often identical with those corrent in Western practice.
(2) Knowledge of Asepsis and Antisepsis still survives in what little aurgical practice the Ayurvedic practitioner still does. Instroments are boiled in water or singed in fire according to anoient tradition (अग्नितत्तेन शस्तरे, etc.)-8ushruta-Chikitsa, Chapter II. This explains the saccess of the major operations like Laparatomy, Lithotomy, etc., described in Sushrate.
(3) Treatment of oellultis and infected wounds by Antiseptic irrigations and Pralepas (applications of medicinal pastes) are often done so saccessfully by Aybrvedic practitioners that their Western colleagqes would do well to learn the subject from them for the benefit of siffering hamanity.

It must be admitted however that on the whole, much of surgery bas been Jorgotten and requires revival and re-juvenation. For the other'six'branches of $A$ yarvedio treatment-for thero are eight divisions in all-I would refer you onoe more to my Hindu University address. $\mathrm{O}_{\mathrm{f}}$ these, the Rasayana (रसायन) or the Alterative and Restorative treatment and the Vajeekarna (वाजीकरण) or the treatment of the Sexual fanctions are special features of Ayarveda. I believe, the Yunani system owes a great deal to Ayprveda in these Tines of treatment.

General efflcacy of Ayurvedic treatment.-As to the general efficacy of Ayurvedic treatment, I think there can be little doubt. In Calcatta, the great home of Western oultore, Ayorvedio practitioners thrive in a remarkable manner and are the strong rivals in practioe of the Presidency Surgeons and Professors of the Medical College. Not only in Caloatta bat all over India, learned Ayurvedic physioians stand out as fully the peers of their Western colleagues, earning Rs. 500 to Rs. 1,000 per diem when their services are engaged by the Ruling Princes and Nobility of India. Where there are well-equipped Ayorvedic charitable dispensaries, side-by-side with similar Allopathic dispensaries in a town, the attendance in the former goes on inoreasing steadily to an extent whioh would seem to be incredible. The statistics of the Ayurvedic dispensaries in Madras and Calcutta would show this olearly.

In private practice, the average Ayurvedic practitioner often does better than his Westerntrained brother. Besides, Western-trained medical men very often request the services of their Ayurvedic colleagues in chronic intractable cases, not only among their patients but also among their own family members. This is every day experience with me and several of my colleagres in Ayorvedio praotice. Hundreds of patients, deolared incurable and cured under Ayorvedio treatment would bear testimony to the nnique success of Ayurvedic treatment.
Q. 2. (c) Certainly, in most conditions. As to the statistics, we as private praotitioners, do not keep statistics as in hospitals but the great currency and success of Ayorvedic practioe in Bengal is enough evidence to show its worth. Every reputed Ayprvedic physician oan oite hondreds of individual cases.

From the records of some so-oalled incurable eases kept in my clinic, I am able strongly to assert that the efficacy of Ayorvedio treatment in reputed hands is so remarkable that all nection of people, the Prince and the peasant, Indian and European, resort to it freely; I find, in my own practice, that I daily have to attend difficult aases in the houses of at least two or three Allopathio doctors of Caloutta. This is not the experience of myself alone bat, also of Ayvurvedic practitioners trained purely on orthodox lines, many of whom still thrive, as the favoured family physioians of the rich and the noblemen of Bengal.
Q. 3. (a) I am conneoted with the following institations:-

## A. For Medical education-

(i) The all-India Aypurvedic Conference and Board of Ayurvedic Edquation (निखिलभारतीयवैद्यसम्मेलन आयुवैदवविद्यापीठ)-As Ex-President and Vioe-President.
(ii) The Ashtanga Ayorvedic Vidyalaya, Calcutta-As President of Governing Oonncil.
(iii) The Faonlty of Oriental Learning and The Board of Aypurvedic Educacation, Benares Hinda University-As Co-opted Member.
(iv) The Madras Ayurvedio College as Examiner and Adviser.
(v) Vaidya Shastra Peetha.-The National Aywrvedic College, Caloutta-As Member of the Executive Committee.
(vi) Almost all other important Aypurvedic colleges and sohools of India as of Delhi, Bombay, Gwalior, Jaipor, etc.-As Examiner and Adviser.
B. For Medical relief-
(i) Ashtanga Ayurvedio Vidyalaya Hospital, Calcutta.
(ii) Sri Vishuddhananda Charitable Dispensary, Calcotta.
(iii) Raja Digamber Mitter's Charitable Dispensary.
(iv) The District Board Aynrvedic Charitable Dispensary of Jessore (Bengal).
(v) The Kalpataru Ayurvedio Works (a large Pharmaceatioal work) mannfacturing Ayurvedic preparations on a very large scale.
Q. 3. (b) (1) No. The defioiency lies in the inadequacy of the staff and want of sufficient a coommodation for the ever increasing number of patients, as also of funds to meet the demands.
(2) Yes. So far as they go. Muah spade-work is however required to teach the students on the college and sohool system more efficiently and with more and more practical training.

Remedies.-I propose to remedy them by keeping more paid workers (at present many are honorary), also by starting well-equipped Ayurvedic sohools and colleges in all important cities of India.
(c) I do not think there is a suffioient number of Ayurvedic institutions for medical relief or medioal education. I do believe that a little encouragement from Government would make mj
conatrymen come forward more ardently to help the Government and private Ayurredio inatitutions that may be started. The popalar demand for them io very great indeed. The Government prejadice against it must go; the mere reoognition by our Government that Ayurveda is their and our owen alike, the fottoring and promotion of which is one of the elomentary duties of any Indian Government, woald by itself draw to Ayurveds a good doal of aupport of whioh is is 80 much in need.
Q. 4. (1) Yes.
(2) Yea.
(3) Yes.

The ideal which the above sub-questions point to is, I think, the great original ideal of Ayurvedic education under a practical teaching system of oonstant association with the teeobers (ride Bushrut-8utrastham-Chapter II. Biahyopaniyadhyaya, and alsn Charaka, Vimana, Chapter VII).

The ideal is however not attained or attainable just now, as the pmrision for medical training is very inadequate in India even in the Medical colleges that traoh the Allopathio system.
(b) I do not think the ideal is too high for the present, as even in the small tole of Bengal, it is partly achieved, the papils living constantly with their teanhers and watohing as well as following bis professional work. It is a system under which olinical experienoe of a very valusble kind is ensured to the papils. Of course, it is oapable of great expanaion, and worked in the Hindu way, it is'not impracticable. The ideal to be worked up as carly as possible is to atart a type of residential colleges, suited to Indian conditions, where a hostel is to be attached to every Ayurvedic medical college, with at least two or three residential profennors.
Q. 5. I agree with the first part of the finding, as to the neopssity of making the traditional knowledge available to practitioners of Western medicine; but, I do not think the diatinction between the Indian and Western gystems will ever disappear. To oite a oommon example, although the fondamental tenets and ideals of every religion are the same, it is very unlikels that we shall ever attain the ideal of one world-religion.

I, therefore, think that the ideal of a System of Unified Medicine is too high for average homanity at the present day; so, I do not suggest sny steps in this direction of unification. I would certainly urge mataal exchange of knowledge for the benefit of both. Our Medical aystem can certainly be benefited by adopting some modern advances, while the Weatern systom may alao be benefited greatly by adopting certain invaluable prinoiples and methods of diagnosin and treatment adumbrated in our syatem. Such exchange of knowledge will certainly make for the good of humanity as a whole.
Q. 6. The question is rather wide, almost to vagueness ; and the magic expression 'modern scientific methods'is an unhappy insinuation that indigenous systems of medicines are baned on the unscientific methods. A study on modern lines of Anatomy, Physiology, eto., would, of course, be very useful to supplement what the indigenous aystems have in their books. To be more explicit, I would suggest the Indianisation of Western Scientific knowledge rather than Westernnising our ovon systems. For instance, when you teach Anatomy, bave Indian Texts as the bania, bsing Indian names as far as possible, while the student should be free to take-in anything useful, from Western texts.

As to the course of stadies, I can suggest no better course than the one decided npon, by the Special Committee of the All-India Ayorvedic Conference; this Committee consisted of the very piek and flower of the Ayurvedic profession from all parts of Indis who worked this subject out in several sittings. (Vide Course of Studies in Rules of All-India Aynrvedic Conference.)
(a) Progressive standards have been contemplated and established by the All-India Board of Ayorvedic examinations but the teaching facilitiee in the varions Ayurvedic institations of India are still meagre and far short of the standard laid down and call for mach progreas and reform.
(b) Preliminary qualifications.-These would, of course, vary with the qualifioation aimed at by the stodent. For the higher qualifications, I think, sufficiently advanced knowledge of Sanskrit should be the sine qua non in every case, as almost all Ayurvedic works are written in Ganskrit. There need be no fear of dearth of students, as the various Banskrit-teaching contres of India are preparing hundreds of qualified stadents every year. A working knowledge of English should also be made essential for the highest qualifioation, while it would be of great advantage to every student. The lowest standard woald require good knowledge only in the vernacular of the province; but, at present there are not many vernacular works existing in Ayrurvedio literature and text-books will have to be maltiplied on almost every subject.
(c) I think the medium of instraction should be the vernacular of the Province in which the teaching institution is located, e.g., Bengalee for Bengal, Tamil for Tamil districte and Telagn for Teluga districts and so forth.
Q. 7. I think medical registration would be harmful just at present onless sufficient eafeguardo. are provided. From my past experience of the working of the Medical Registration Acte, I conosider it capable of being employed, as much as a defensive as an offensive mearare. . If, however,
an Indegenons Medical Registration Board; manned almost solely by practioners of the Indigonous Bystems of Medicine and not under the control of the head of the Allopathic Medioal Depart? ment, is orested, I see no objection to Ayurvedic Medical registration : indeed; it may do somd good, even in the immediate present bat it mast not be too stringent.
Q. 8. The cost of treatment according to the Indegenous systems should be considered under two heads:-
(1) Treatment of well-to-do-people.
(2)
the poor.
For the former, the practitioners of both the Weatern and Eastern systems are in the habit of presoribing costly preparations; but, on the whole, if the modern costly methods of diagnosis are taken into account, Ayurvedic treatment is certainly cheaper even for well-to-do patients.
(2) For the poor, the Indigenons systems are by far the cheaper, as there are plentiful supplies of Ayurvedic drugs available in every part of India and they are used mostly in the fresh form as joioes, decoctions, etc., which eliminate oostly pharmaceatical processes including the addition of spirits and the bottling, labelling, advertisements, eto. There is another fact, which makes the treatment by the Western Allopathic system inadvisible in some cases at least; and this is as regards the unsuitability of Allopathic medicines to Indians and Indian olimate. To take one instance, the use of two or three non-poisonous tinctures and spirits, in every dose of medioine, often means the ingeation of about one to two drams of alcohol in every dose; to the Indian patient who is not usually accustomed to aloohol, this means a great strain on the liver and kidneys and I believe it altimately makes the patient more susoeptible to the invarion of various diseases.

From the comparative statistios of the costs of treatment collected from the records of Ayurvedic charitable dispensaries in Calcutta and Madras, it has been found out that the average cost is about 5 to 6 pies per head per day and would never exceed nine pies.
Q. 9. Causes of decay come under four heads-

| (1) Want of State-aid. | (3) Eoonomioal causes. |
| :--- | :--- |
| (2) Political visoissitudes. | (4) Sopport of Stast |

(2) Political visoissitudes.
(4) Snpport of State to the rival system.

Remedies.-These are dealt with by me in my address to the Benares Hindu University, which I wish to quote here again.
"Long manuscript-colleoting tours should be undertaken by ardent and woll informed scholars having the regenerations of Ayorveda as their aim and object; the remembering that the ravages of the reckless invaders of India did not spread so widely into the Deocan as in other parts of India, I venture to assert that such tours in the southern half of India would be productive of great resulte. Well-equipped Ayurvedic colleges having full facilities for anatomical dissections, physiological demonstrations, and Physics and Chemistry olasses should be founded in every province and affliated to the Universities. To these should be attached Ayurvedic hospitals for the treatment of ohronic diseases, particularly to supplement the good work of already existing hospitals conducted on Western lines. Such institntions should form the fountain-springs from which drreot olinical knowledge should flow abundantly into the minds of Ayurvedic stadents. Pharmacological and analytioal laboratories for the investigation of indigenous drags should also work unceasingly as parts of these institations, and for new discoveries and demonstrations on Ayorvedic lines. Libraries of Aypurvedic books as also gardens, herbaria and maseums of indigeneons drugs should alko be maintained with proper care to facilitate practical knowledge and research work. All this may appear an order too large for our means but there can be no doubt that sach should be our ideals, provided we seriously contemplate the conservation of India's wisdom in the Medical Science. The suffering millions of. India whom Ayurveda saved for centuries past and is still saving to no small extent, demand of us that we should give them the benefits of the same system in all the lustre and polish that Western methods are capable of giving it. They have built up great hopes and have the fullest confidence in the future work of the Hindu. University. So it is for her to set the great ideal in this humane work.

The Ruling Chiefs and the wealthy Philanthropists too, under whose parental care, so mach exoellent work is being done in Ayarvedio schools and charities, owe it themselves to expand these institations up to modern ideals.

It was high time that the State and pecple moved and helped the Ayurvedic system with anstinting generosity and care. India's need for medical aid is neither small nor limited. Considering the proportion of medioal men to the vast population, of all oountries, India is the most poorly sapplied with medical aid. The proportion of western medical men to the teeming millions who are ailing from year's end to year's end with malaria, cholera, plague, fevers and ohronic diseases is aimply like that of a drop of oil on the surging ocean. The salvation of diseased India lies in the rejavenation of Ayorvedic Medioine, aide by side with the progress of the Western aystem. There will be no dearth of Ayurvedio drags whioh are found everywhere in abundance. War will not affect their prices to any appreoiable extent. The noble bands of ailent workers who are doing so muoh thankless good work all over Indie with the aid of
indigenous drage certainly denarve encouragement and not demning; for thair degranation or extinotion will moas the degeneration and axtinotion of millione of people lonking ap to the 8 tate, in hope and confidenco."
Q. 10. (a) The Btate oan forter the Ayarrodio aystem-
(1) By allotting fande to the various looul bodies to menintain Ayorrodio hoopitale and dispensariee.
(2) By founding Ayurvedio mohools and collegen in the varions important oentree of India.
(3) Subsidising existing $\Delta$ yorredic aharitable institutions.
(4) Subeidising genuine enterprieen where manofactare of Indigenone drage is being attompted on a large commercial soale.
(b) Local Boards.-The local boards ahould actively engnge themselves in aiding the existing and starting new charitable institations of the Ayurvedio aystem. Repated $\Delta$ yurvedio practitioners in the local area may aloo be sabsidised, with a view to encourage them in the froe distribution of medicine to the poor patients, which, by the way, they are already doing to come extent as a matter of their noble mission. Fortanately many loosl boards and municipalitiee in Bengal and elsewhere have just started this work bat much more work is expeoted.
(c) Universitiea-They should arrange for examination on Indigenone medioal ayotema in the same way that they do for Western medicine. The Univeraity examinations ahoold of conrse be appplementary to the School Final teste of Ayurvedio Inatitations and mant not supplant the lioenoes granted by compotent teaching and examining bodice.
(d) Prioate Agencies.-I believe if the Government would start inatitatione oither for medical relief or for medical education on Indigenous lines, and invite sapport from the publio, sutficient amounts of subseription would be readily forthooming from private nources ; and taking it the other way, the Government ahonld also encourage and assist private enterprieca, when they are started and run on genaine and approved lines. I would also plead for the proper administration of our numerons religions endowments, so that at least a amall portion of the vect enma now locked op in them m.ly be used in offering to Heaven such truly religioue wormhip, ns the founding in His name, of institutions of Indigenous systems, where medical relief io made easily available to all His sick and soffering children.
(2) KAVIRAJ JAMINI BHUSHAN ROY KAVIRATNA, m.a., צ..., m.B.a.., z.c.ס., PRINCIPAL, ASHTANGA AYURVEDIO VIDYALAYA, OALOUTTA.
Q. 1. Ayarveda.
Q. 2. I believe in the Tridosh theory of Ayurveda, because it has always belped me and never failed me, both in diagnosis and treatment. I have expounded this theory in my work ' Roga Viniochaya' first edition pages, 1-44, under the general heading "Dosha Dushya Nirapanam" to which $I$ refer those interested in this subject.

Health and ill-health depends respectively upon the normal (Prakriti) and morhid (Vikriti) condition of the three doshas-Vata, Pittha and Rapha ; the normal habitat of these three doceban, as also the special featnres of their normal conditions and the symptomatology of their morbid conditions are all olearly described in our books; and these are the fundamentala, with which overy real Ayarvedio practitioner is and must be quite familiar with. From the elinioal experience of ages recorded in our books and added on from time to time by various acute olservers, we are also able to diagnose the exaot nature of the Doshic disturbence-whether it is essentially a morbidity of one, two or three doshas, whether it indicates their inorease (Vriddhi or deorease (Khsaya), whether it is their Bama (attended with digestive disturbanoe) or Nirama condition and so on.

The teachings of our Rishis aleo help us in diagnosing which of the seven Dhatus (blood, muscle, fat, etc.,) is primarily at fault; onoe a knowledge of the morbid Doahas and Dhatus is gained, the rest is easy. For purposes of clearly understanding the exaot nature of diseasen, they are generally studied from five stand-points, viz., Nidana (Actiology), purvarupa (prodromatas-,) Rapa (symptomatology), Upasaya (confirmative reaction to proper experimental therapeotic measures) and Samprapti (Pathology-;) of these, Nidans will enable ue to diagnose whether the morbid condition is already fally developed, or is developing in the immediate present or is yet to develop in the future, but, as one Nidana may possibly be at the root of more than one morhid condition, we cannot diagnose diseases by Nidana alone; similarly, Purvarap (prodromata) will help us in diagnosing diseases that are to develop in the future; but, as similar prodromata may possibly lead to a varied number of diseses, we cannot know the exact morbid condition of the Doshas by Purvarup alone Hence the importance of Rap (aymptomatology) which however saggests to us only what has happened in the past; cometimes however, when the prodrmate are not elear and the symptomatology obseure or oceult, we have recourse to Upasaya (or inference from the reaction shown to certain experimental therapeutie measures) ; this is applicable to all caaes, no matter whether the development of morlidity is a festare of the past, present or future; but, even after viewing from all these stand-pointa, we may not be able to lnow the exact past and future of the dieease-its oxact type, its prognostie.
significance, the progressive ahanges in doshic derangement, eto., unless from the first, we otudy the Samprapti (Pathology) of the disease. Thus it is said that five-fold is the method of diagno--sing diseases:-

Of these, let us firat consider Nidana (or Hetu)-Actiology. Heta is manifold in nature, thus :-
(1) Sannrikristhi (immediate or exoiting).
(2) Viprakrishta (remote or predisposing).
(3) Vyabhichara (subservient or weak).
(4) Pradhanika (predominants) Patent.
(5) Asathmendriyarths Samyoga.
(Inoompatible correlation of the senses with their objects) their Atiyog, Hinayog and Mithyog-i.e. excessive, improper and defeotive correlation.
(6) Faults or Indisoretions of Prajna (knowledge) that is Atiyoga, eto. as in (5) above.
(7) Time factor (the seasons, ete.) that is Atiyoga, etc., as in (5) above.
(8) Dosha Hetu-Canse whioh makes for doshic derangement:
(9) Vyadhi Hetu-Canse which makes for manifertation of disease.
(10) Ubhaya Hetu-Cause which makes for both doshio derangement and manifestation of disease.
(11) Utpadaka-Productive oause (as for example as the sweet rasa of the Hemantbst ceason, towards Kapha).
(12) Vyanjaks-(secondary or accessory).
(13) Bahya (external causes like food, habita, seasonal variations, eto).
(14) Abhyantara (internsl i.e., of Doshas and Dushyas).
(15) Prakritio (Natural).
(16) Vikritic (Unnatural).
(17) Anubandhys (Independent).
(18) Anubandha (Dependent).
(19) Speoific Prakritio morbidity (vatarogas ocourring in Vatapeakriti are more diffionlt of cure than in Kapha or Pitha Prakriti).
(20) Ashayapakarshana (Dislocation or the expuleion of a Dosha from its natural habitat).

Next we come to Purvarap or prodromata.
This has reference only to morbidity that is to occur in the fature; this also corresponde to the fourth, among the six stages (Kriya-Kalas) of the Samprapti (Pathology) of disease whioh we will come to presently.

Then come Rup or Bymptomatology of diseases when they become manifest. (Oharaka Nidan-1).

Symptomatology before manifestation is Purvarup which anggests disease that is to manifest in future, while Rup has reference to the present and immediate past-i.e. to disease that is just manifesting or has already manifested itself and corresponds to the fifth stage of Samprapthi (Pathology) to be explained presently.

Upashaya is the conformatory and experimental test of the suspected nature of disease, when favourable and expected reaction follows from the use of appropriate therapeutic measures or Aushadas, contrary to the cause (Heta) or disease (Vyadhi) or both or to the effecte of one or rother or both. Here, Aushada (remedy) is a term used by Charaka in a very wide and comprehensive sense, inoluding all remedial measures, whether material or non-material, measures gach as habits and practices, place, Time, lessening or withholding food, eto. This method of infering the cause of nature of disease is especially helpful, where Purvarip and Rap have not helped us to a clear understanding of the exsct nature of diseases.

Then, we come to Samprapti (on pathology) of dieease, whioh han referenoe to the following features:-
(1) Sankhya or number.-That is to say the number of varieties or types in whioh diseases may manifest themselves: thus: fevers in eight types, gulmas in five, leprosy in seven and so on.
(2) Pradhanya or Predominance.-That is, the predominance of partioular douba or doshas.
(3) Vidhi or order or classification.-That is, with referenoe to either the two-fold causes Idiopathic (Nija) or Traumopathic (Aganthuka), or to the three-fold olassification of Tridash or to the four-fold elassification of ourable, incurable, mild and severe types.
(4) Vikalpa or possible alternatives.-That is, the ascertainment of the measnre in whioh the doshas are excited in the combined doshio triad.
(5) Time of energioing (Balakala).-This in with refenence to the time-frotor, whioh energises disenses and make them either Atibala, Madhyabala or Heenabala (severe, moderato mild,-) e.g., the seasons, the day, the night, the hour of eating, ete.

In atadying 8amprapti, we atody the following morhid phenomena whioh the Doabay underge:-
(I) Banchaye or acoumulation of doehas corresponds to the firat Rriraknala (period of Activity).
(2) Prakopa or excitation-corresponds to the 2nd.
(3) Prasara or extension-corresponds to the 3rd Keryskala (period of Aotivity).
(4) Sthana Samshraya or specific location-corresponds to the 4th Krivabala (period of Activity). [when the excited Doshas extend from their sents or origin and becomp lroalisod in other seats, they oanse specific diseases of the, parts 00 affected, e.g., diseaspe of atomach ${ }^{\circ}$ ! diseases of bladder', 'diseases of anal region ', 'disenses of testes', disenses of blood, skin, muscles or other tissues ' or diseases of all organs as a whole. This condition correnponds was been mentioned already to 'Purvarup ' or stage of Prodromata (or incubation).]
(5) Vyakthi or manifestation corresponds to the 5th Kriyakala (or period of notivity). This is the stage when Ropa (or symptomatology of diseases) oan be studied.
(6) Bheds or variation-Corresponds to the 6th Kriyakala.

This is the stage when diseases become chronio, incurable, etc.
From what has been stated above, it should be clear that our system is perfectly seiertifio and can stand the test of any soientific criticiam, provided that our critics take the trouble to aequaint themselves with what they are criticising-doubtless an elementary qualification demanded of every critic in other branahes of technical study but somehow or other totally neplected by some Professors, who thinks it is apparently the correct thing to judge Ayarveda from ignoranceborn prejudice or bigotry; the persons best qualified to say whether or not Ayurveds can utand the test of modern soientific criticism are obviously those who are versed both in Ayurveda and modern Western medical soience-not those who are ignorant of Ayarveda, an some orition in the past ondoubtedly were, however high their professions may be in Western medicine. By this, I olearly mean that Western Scientific men should first learn the Sanarrit language and then atudy A yurveda for some years under one of our competent Aaharyas ; then only, may they think of criticising A yarveda; otherwise, their criticiam is worthless and cannot olaim any authority; suah oritios will only sucoeed in proolaiming to the world their unsoientific attitude. For the credit of Ayorveda, be it said, that no profeseor of Ayurveda has evpr been guilty of such infamous procedure as oriticising the Western medioal science, without studying it; in my opinion, both systems are useful and worthy of stady; to shut ourselves from knowledge and trath (whether it comes from the East or the West) is, in my view, a sign of barbarity. No wonder that ignorant critics frequently succeed (albeit unconsciously) not only is stuppressing the truth (suppressio veri) but also in snggesting faleshood (suggestio falsi) as, for example, in suggesting that our Tridosh Theory is the same as some "Humoral Theory" of the Greekn.

Principples and methods of Diagnosis.-It is sometimes alleged by our ignorant critics versed in Allopathy that we treat diseases more or less symptomatically without properly diagnosing them ; this is a baseless calumny; for my present purpose, it is unnecessary, though I could do it with perfect jastice, to throw baok the critioism in the teeth of our critics and challenge them to say whether their diagnosis is not frequently uncertain and whether they do not treat cames symptomatically.

## As regards details, it is laid down thas-

The diagnosis of diseases is six-fold by means of the five senses and also by interrogation. Western medicine, looking at things from without, designates its diagnostio methods by the terms inspection, palpation, eto; but, our anoients, ever looking at things from within, referred them all to the five senses and to interrogation, which (interrogation) was a very comprehensive and highly suggestive method, including, as it did, references to all the nomerons relevant factors of diseases such as Desa (country) Kala (time or seasons), Jati (tribe), Satmya (compatibility, that is to say, whether correlation with particular climate, country, season, previous illness, tribal peculiarities, eto, is or is not compatible to patient), Athanka Samntpathi (the mode of onset), Vedana Samuahraya (the 'mode of development of ailment), Balam (constitutional strength), Deepagnitha (state of digestion and assimilation), Matra-Pureeshadi (atate of urine and fæces, etc., $)$ and so on.

- If any physician of any climate or country follows the detailed maxims laid down for the thorough examination of not only the disease, but also of the patient, which examination was partioularly insisted on, by our sages, as being essential both for diagnosis and treatment, he is sure to do well by his patient and hring oredit to his Science and Art.

Principles and methods of treatiment.-This is a very vast subject and if any one come to know something about it, he must study our books thoroughly under a competent Gurn; if the Government is really kind to us and really interested in Ayurveda, they will do well, as a first instalment of their kindness, to give us a hospital of 100 beds, where we are prepared to demonstrate and prove to the hilt the efficacy of Ay urvedic treatment to the entire satiofaction of even the striotest of our fair critics. It is really difficult to delineate the whole subject of our treatment in the short compass of this reply. In this connexion I should like to refer you to 'Chakradatta's work on treatment (hoth medical and aurgical). .

The main allegation against us is that we had no surgery and the greatest boon given to us by our Western friends is that they bronght Surgery to us; historioally, this is incorrect; I refer you to Encyclopedia Brittanica-Volume XXII; page 672-19th Edition :-
"In both branches of the Aryan stock, surgioal practioe, as well as medical, reached a high degree of perfection at an early period.
"The correspondenoe between the Susruta and the Hippocratic collection is closest in the sections relating to the ethics of medical practioe; the description, also, of Lithotomy in the former agrees almost exaotly with the acconnt of the Alexandrian practice as given by Celsus. But there are certainly some dexterous operations described in Susruta (suoh as the Rhinoplastic) which were of native invention; the elaborate and lofty ethical code appears to be of pure Brahmanical origin; and the very copions Materia Medica (which inoluded arsenic, meroory, zino. and many other substances of permanent value) does not oontain a single artiole of foreign source. Susrata describes more than one hundred sargioal instruments made of steel. They should have good handles and firm joints, be well polished and sharp enough to divide hair ; they should be perfectly clean, and kept in flannel in a wooden box. They inoluded various shapes of scalpels, bistouries, lancets, sacrifiers, saws, bone-nippers, soissors, trocars, and needles. There were also blunt hooks, loops, probes (including a caustio-holder), directors, sounds, scoops and forceps (for polypi, eto.) as well as catheters, syringes, rectal speonlum, and bougies. There were fourteen varieties of bandage.. The favourite form of splint was made of slips of bamboo bound together with string and out to the length required. Wise says that he has frequently used "this admirable splint", particularly for fractures of the thigh, homerus, radius and ulna, and it/has been subsequently adopted in the English army under the name of the "patent rattan cane splint". Fractores were diagnosed, among other signa, by crepitus. Dislooations were elaborately classified, and the differential diagnosis given; the treatment was by traction and counteraction, circumduotion, and other dexterous manipalation. Wounds were divided into incised, punctured, lacerated, contused, etc. Cuts of the head and face were sewed. Skill in extracting foreign bodies was oarried to a great height, the magnet being used for iron particles under certain specified circumstances. Inflammations were treated by the usual antiphlogistic regimen and appliances ; venesection was practised at several other points besides the bend of the elbow; leeches were more often resorted to than the lance; oupping also was in general use. Poulticing, fomenting, and the like were done as at present. Amputation was done now and then notwithstanding the want of a good control over the hæmorrhage; boiling oil was applied to the stamp, with pressure by means of a cap-formed bandage, pitch being sometimes added. Tumours and enlarged lymphatic glands were ont out and an arsenical salve applied to the raw surfaces to 'prevent recurrence. Abdominal dropsy and hydrocele were treated by tapping with trocar, and varieties of hernia were understood, omental hernia being removed by operation on the scrotam. Aneurisms, were known but not treated.

Besides the operations already mentioned, the abdomen was opened by a short inoision below the umbilicus slightly to the left of the midale line, for the parpose of removing intestinal conoretions or other obstruction (Laparotomy) ; only a segment of the bowel was exposed at one. time; the concretion when found was removed, the intestine stitohed together again, anointed with ghee and honey, and retorned into the oavity. Lithotomy was practised, without the staff. There was a plastio operation for the restoration of the nose, the akin being taken from the cheek adjoining, and the vasoularity kept up by a bridge of tissue. The ophthalmic surgery inoluded extraction of cataract. Obstetric operations were various, ipoluding Caesarian seetion. and erushing the foetus.

The medioation and constitutional treatment in surgioal cases were in keeping with the general care and elaborateness of their practioe, and with the copionsness of their materia. medica".

I quote here Enoyolopedia Brittanica and not our own original texts, beaanse our mentality has now become so deteriorated as to make even my own countrymen believe me, only if $I$ quote Enoyolopedia Brittanica bat not if I quote Sushrata. I may also add here that the examination of urine by our ancients was carried to such perfection as to enable them to diagnose pregnanoy and sterility, by the examination of urine alone; so too, they did not confine their "Anatomy" to desoription of our physical struoture alone but went on to desoribe the emotional body as well; thus we find in our books the description of not only, "Sensory aress ", "Motor areas" and so on, but aleo of "Anger areas", "Affection areas" and the like; similarly, \& Kaviraj is also expeoted to be expert in understanding the different mental conditions (such as power as concentration, attention, study, application, memory, eto.) by a careful study of faoial expression and in other ways taught by the Gurn to the disciple that had demonstrated his. fitness for receiving this knowledge.

Even the up-to-date modern surgeons of to-day will be more up-to-date and modern if they will take the troable to acquaint themselves with our learning on the subject. The chief difficulty is that this valuable learning of our ancients is contained in books written in Banskrit, without a knowledge of which it is not now possible to get at originals ; another difficulty is that the texts are mostly aphoristio and require elucidation and elaboration by competent Gurus, who are now unfortunately very few and far between. It is no doubt true that the Art of Surgery has now undergone decay bnt it can ke easily revived. Though the Art has decayed,
it can be reasocitated and rendered efficient in practioe, by conducting Ayarvedio rmearol along right hines, and taking the aid of modern surgery and modern suietoe genempy, wherover they are useful; there is nothing demeaning in maring ase of such helpful guides i for, the une of suol aids has been sanctioned by our own Sushruta, who say in Chapter FII 8atrasthan that a
 by exhibition of akill."

Gomerel Eflocacy.-This is also a very big subjeot to traverve; uftimatoly, the mont antisfactory proof is actual demonstration, so for example, in a houpital $;$ bat, if I may jodge from my own experience of both syutems, I am moot emphatienly of opimion that the Ayurverfio system has many things to recommend it for our preferential treatmene; we have a pharmacoproitan which etands, unrivaled in ite richnees and excellence; although, due to laok of atabe rangnition and patronage, Ayurveda has suffered greatly, no that the pharmacopceia in actual une in bnt a mall fragment of what it might be, yet, every claee of Ayurvedio practitionern-whether of the first or the last order, asn do and is doing a lot of good wort by the help of the limited pharmooopcoia now in use.

The principles of treatment are so clear and acientifio, and the methoda, so well suited to us, that even a very ordinary practitioner osn and doen undertake with suroew the treatment of very serious cases, and frequently, of osses given up as hopeless by Western-trained doctors. I may perhaps illustrate my point by an example. In our ahastras, two kinds of fomentations are described, vie., dry and moist ; the indioations for the noe of pach are mo well laid down that an ordinary Ayurvedic practitioners never makes the mistake of uning the one for the other. The Allopathic practitioners also reoognise that these two kinds of fomentations are indicated in different conditions; but, the subjeot is so imperfeotly known to them that, not long ago, certain distinguished Allopathic expert brethren of mine, who wore engaged in treating an independent Rnling Chief of Bengal failed because of the lack of propar guidance from their science, where I sucoeeded, thank to the clear and never-failing guidanee of our Shastras. The Royal patient had atrophy of the musoles of both arms and lega, and was completely bed-ridden; my allopathic friends knew that fomentations were necessary; but, they did not know that it was not the dry bot the moist fomentation that was indioated here; they only used dry fomentations, including electric current; this and the use of their highly ecientiflo instruments notwithstanding, the atrophy grew worse and worae ; it was then that I was oalled in ; it was clear to me it was a case of moist fomentations of the natare of medioated gheer, oils, marrow-fat, etc. I at once began the treatment with a hopeful mind, oertain to oonvince an unbelieving Maharaja, from his own experience, as to the unrivalled efficaoy of Ayurvedio treatmont, even after its negleot for centuries by our rulers and following them, by the ruled aloo. I want to impress upon you that it is only by my knowledge of A yarveda, which taught mo that it was Snigdhs Sneha that was indicated in the derangement of Vayu and the last utage of atrophy that I was able to succeed where my Allopathic brethren failed; my knowledge of Allopathy could no more help me here than it did my Allopathio expert friends who had charge of the case before me; but, by the grace of our Rishis and the help of Ayurveda, I was able to afford rapid relief to my Royal patient, so that within a month, the bed-ridden Maharaja was able to write, to walk and to attend to his ordinary dutiem.

Such instances can be easily moltiplied; but, there is no need for them here. Epeaking for myself, I shall be guilty of the basest ingratitude to Ayorveda which is my never-fniling solace, if I do not gratefully recognise and loudly proclaim that wino Ayurvedic theory of Tridosh has always helped me both to diagnose and to treat cases more successfllly than if $I$ had followed only the gaidance of the Allopathic system. Before I close this topic I shall give you only one more illustration to show how perfectly scientific, Ayurveds is both in the matter of diagnosis and treatment. Yon all know that in cases of hyperpyrexis the shept-anchor of Allopathy is cold, i.e., wet-packs, ice to head and so on ; according to Aypurveds, this is dangerous quackery; cold in any form is only indicated in fevers due to Agneya causes, while it is heat that is indicated in fevers due to Banmya causes; this is a distinction unknown to Allopathy, who treat all cases of hyperpyrexia, by the same rule of thumb, becauee at present they know no better; for, they do not know that, from the standpoint of treatment, it is very neocsaary to recognize that hyperpyrexia may be due to causes direotly oontrary to each other, and that therefore it is always unsoientific as well as undesirable and aometimes dangerous and even disastrons, to treat all fevers, by one and the aame method of application of cold.

For the benefit of homanity, I implore all doctors, whatever their nationality may be, to stady at least the Tridosh theory; it will help them uniformaly and in every case, to diagnose and treat correctly, that is to say, scientifically; Allopathy does not do thir in a number of cases; our theory will help them not only to diagnose the nature of disease but the varions types of it as well, as also the changes it is undergoing from time to time; without a knowledge of thes changes, treatment would be unscientific and may lead to disaster.

## Q. 3. (a) Yes, with the following institations:-

(I) Asthanga Ayurveda Vidyalaya, Founder and Principal ; aleo visiting Surgeon to the attanhed out-patient department.
(2) All-India Ayurveda Vidyar-President and Examines
(3) Digamber Mitter Charitable Dispensary-Governor.

(b) Mardmas Ayouvedib Gollege-Examiner.
(6) Venkataramana Dispensary-Examinex.
 Examiner.
(b) (1) No. There showld dertainly be many more institotions for giving Ayivivedio medicad relief bo sons of the soil ; beeanse the Indigenons systems based as they are on the many fantow which are peooliar to the obildren of the soil, e.g.; their habits, oustoms, mode of tiving; climate, the mature amd quantity of drugg asailable, etce, are naturally better soited to us than foreign system: As Charakn says,
"यरिमन् देरों दिं जातः तर्य तजौषषं हितम "
"whosoever born in a partieular country to him the drags grown in that cointry are suitable."
(2) The answer is "Yes", if we do net expect too mach all at onoe; , in our A'sthanga' Ayurveda Vidyalaya, there is arrangement for teaching all the eight branches of Ayorveda, in both its theoretical and practical aspects; so also in the two institutions at your own place, via. the Madras Ayurvedio College and the Mylapore: Venkatamamana dispensary, both of whioh I have visited; of oourse, many more such institutions have to be stanted. In thisi connexion, I cannot bat pay my tribute to your Presidenoy which was till recently graced by the presence of that great worker for A'yurveda; the late Vaidya Ratna Pandit. D. Gopalacharla, from whom it was that I got the inspiration to start our Asthanga Vidyalaya.
(c) This aub-question has obvionaly a quantitative bearing; and the answer mast be in the negative; for considering our needs, the namber of existing institations is bat a drop in the ocean.

Q: 4. (a) (1) Emphatically yes: To the invaluable excellenoe of Gurugriha Nivasa, which thim sub-question refers to, I oan bear ample and personal testimony; from my childhood almost, I lived and studied in my Gura's immediate presenoe forming a part of the hage family consisting of my Gora and his pupils; first, I lived with about 100 papils of my late revered father, and after his demise, with my second preceptor, as his own son. It is difficult to exaggerate the immense value of such' a holy atmosphere of study and learning. I recognize that at the present, day it is not practioable to revive the beantiful institution of our anoient Guragriha nivas. Nevertheless, something of its ancient glory may be preserved if we could found residential Ayurvedic Colleges standing in their own grounds, where reside not only the pupils but as many professors as possible, so that the students may as far as possible live and study in the immediate and inspiring presence of their preoeptors. If even this is not possible, we may so arrange our courriculum that for at least a couple of years every student lives with at least one of his professors. It is only thus that the pupils learn many invaluable things, without feeling or knowing that they are being taught. Our present system of spending a few hours in the College and hospital, trying to learn bits of Soiences and Arts and then spending the rest of our lives in quite a different atmosphere is not calculated to make for that high oulture of plain living and high thinking, whioh nur anoient system of Gurugriha nivass inouloated. As an ancient verse has it,

## गुरुभुगश्रूषया विद्या पुष्कलेत घनेन वा । <br> अथवा विद्यया विधा चतुर्थो नोपपद्यते II.

"There are only three ways and not a fourth of learning vidya-by serving under a Gura, by spending a large amount of money or by exchange of vidya:"

Especially for the student of medicine, it is highly essential that, in the plastic period of his life, he should learn to build up into his life, that high sense of duty and honoor, as also that :spirit of service and self-sacrifioe, which is best fostered onder a system of Gurugrihai nivasam; provided of course, the Gurus are not of the mercenary type that is unfortunately becoming increasingly common at the present day. Even from the standpoint of pure academical learning, the pupils are certain to learn best, when in addition to their college and hospital tuition, they get the inestimable benefit of watohing and following the Gara, in the praotice of his profegsion, both at home and outside.

One other misfortune that we have to contend with is the question of Religious Education; some sort of Christian Religious training is imparted in Christian Mission Schools both to Christian and Non-Christian papils which is obviously a very unsatisfactory arrangement; on the other hand, we have the schools run by Government, where no religious training of any kind is imparted. I do not want to enter here into the disoussion of this vexed question of religious training, I merely wish to express my atrong oonviction that, to the medical student more than to any other, religious training is highly necessary; the best and the noblest members of our profession are what they are beeause' of the truly religious life they lead, no matter to what particular religions demomination they belong or, may be they belong to none. Why then should we leave the growth of the religious spirit within us to ohance or to acoident? why not promote it deliberately and of set purpose?
Q. 5. I am morry that the Calcutta Univeraity Commimion who, very kindly visited this institutioni, did not enter fully into the subject of Ayorvedio atudy. No veeful purpose is therefore served by taking note and answering the ansual remarks of that anguat body. Knowing as I do the high qualifications of the members of that Committee, I have very little doubt thoy would have expreseed themselvea quite differently if they had entered eprioualy into the aubjrot of Ayurvedio etadies. The statement that "the distinetiona between the two aysteme (Indian and Earopean) will then disappear" is a pions wish that is not likely to oome to paes in the nenr future at all events. Well may we say that the distinction between Hinduism and Chriatianity will disappear, when each recognises and adopts whatever is good in the other. If, howpver, the statement means that both systems are at times prone to exhibit an nonocientifio attitude of intolerance and bigotry, and that, when all of na view things in a strictly scientific attitude, the quarrel over distinctions disappears, then, I believe, the etatement may be taken to exprows a wish that is capable of early realization, always provided that we have a real oo-operation of both parties and not indulge in that brand of peeudo-00-operstion, so much affeoted now a daya, where one party is always to boss and lay down the law and the other party, always to yield and obey, under the peril of being branded otherwise as an infamous non-00-0perator.
Q. 6. I am for the stady of everything that is really good in the wide domain of scienoe; bnt, teach your pupils Western Anatomy, Physiology, Botany, etc., on the broad basia of our own Anatomy, Physiology, Botany and the like; if the latter subjects are well taught and thoroughly understood, then, it will not be difficult to give a few additional tonchea of Western Medical Science; beware however of that mischievous method of teaching Western Science, which somotimes results in the young student wrongly thinking that everything that is good and valuable is the exclusive privilege of Western Medical Science. If, in the minds of our pupils, the foundations of Ayarveda are well and truly laid, there need be no fear on this score; on the other hand, a true Ayurvedist will be a better Ayurvedist by a study of other waye of looking at the truths of Medical soience ; for this purpose, I would welcome the study, as far as possible, of the best thoughte of savants all the world over, English, Frenoh, German, American, Japanear, Huasian and so on.

When, some tia e ago, Genersl Edwards (then Burgeon-General with the Government of Bengal and now Director-General, Indian Medical Service) asked me to devise snd tesch a short one year course in Ayarveda to our passed stadents of the Medical College, he had the ides at the back of his mind, which even some well-meaning Indians entertain, vir., that, by so doing, we will be forwarding the cause of Ayurveda. But you cannot manufacture true Ayprvedigta so easily; I told our well-meaning General that what $I$ could do in a year is only to supplement the knowledge of materia medica already possessed by the students but I oould not turn them inte good Kavirajas, which is the crying need of the country. Similarly, if onr Ayurvedio Collegen merely open a short supplemental course of one year in Allopathy to our passed Ayurvedis students, we will not thereby succeed in making them good Allopathists; possibly, that way may lie danger and disaster. Half-learning is dangerous and quarter-learning even more so.
(a) As regards the corriculum of studies, I would suggest that of our Asthanga Ayurveda Vidyalaya as a model ; you will, of course, bave to make such suitable changes, as are suggested by local conditions.
(b) Preliminary qualification.-An ideal student cannot be had now a days; I do not know why; we are gradually deteriorating; let us hope better times are ahead of us. The points which the Principal or the selecting authority or Committee of a Medical College should attend to are suoh as the follewing :-
(1) Family history.- Other things being equal, a doctor's son is more likely to become a ancoessful doctor than the son of any other.
(2) The moral tone of the student.
(3) Physical health.
(4) Intellectual capacity as judged by memory, power of expression, eto.
(5) General equipment as judged roughly, by a university or other reoognized tent. if the candidate possessses no such qualification, he has to be tested viva voce by the Principal or Professor.

For Ayurvedic study, there shonld be two sections:
(a) Students with very good knowledge of the Sanskrit language and a general acquaintance with Mathematics, Natural Science, etc.; a working knowledge of English would certainly be a very useful acquisition.
(b) Stadents with a very good knowledge of the vernaculars, other qualifications being af in (1); qualification (a) is for those practitioners who want to become professors ; for others, qualification (b) is enough. Age. Candidates should not be ton young; I know of cases where very young candidates stood first in the final examination but were not able, as practitirnerm, toinfase any confidence in the patient, becanse of their very youth. For the present, 1 would suggest the age period of from 16 years to 20 years, as the most suitable for admission.
(c) Mother tongue of the candidates is, of coarse, the best mediom of instruction; for higher stadies, a knowledge of Sanskrit is essential. For post-graduate stadies, I would recommend that A yurvedic stadents ahould acquaint themselves with all recent advances in Westerrr. Physiology, Pathology, Bacteriology, etc.
Q.--7. Medical Regiatration.-Some sort of control there must be, bat, not after the fashion of the existing Medioal Registration Boards. My idea is to have a Board consisting almost entirely of Aypurvedists themselves, with one or two eminent laymen also eleoted by them (Ayarvedists). The Government should establish a separate Department of Indian Medioine, quite independent of the existing Department of Western Medioine.
Q.-8. For facts and figures ahowing the comparative cheapness (consistent with at least oqual effioaoy) of Ayurvedic treatment, I would refer you to the statistics of our Aahtanga A yorvedic Institute ; I believe the statistics of almost all Ayarvedic Institutes will bear testimony to the same faot. Then again there is the question of purity of druge and of their being available in sufficient quantities in India itself and so on. At present, genciine Allopathio preparations aro very expensive-prohibitively expensive; to give one instance; $I$ have found that the liquid extract of Ergot is very muoh more efficacious than the ordinary so-called 'standardized' preparation; but, it is sold at 14 annas an oz., while the latter is only 3 annas an oz.; but, in the long $\mathrm{rma}_{\text {, the costlier however is really the cheaper because smaller quantities and fewer }}$ doses are enough. In judging the cost of treatment, we have to bear in mind the following points :-
(1) Cost of diagnosis.-Allopathic diagnosis is already very costly and threatens to become even more costly, if the diagnosis by a team of experts becomes the necessary order of the day. Not that I underrate the value of diagnosis by a team of experts, bat, there is no use ahatting our eyes to the question of cost, as long as we live in a world where financial considerations play a prominent part.
(2) Their ready availability in India.-If the recent Earopean war has not acted as our great eye-opener in this matter, nothing will. We had habituated ourselves to depend on foreign, mostly German, preparations, so that when their supply failed during the war many drugs like Enquinine, Aspirin, Salvar(a)an, Neo-Salvar(s)an, eto., became rarities, that could not sometimes be had for even their weight in gold. The only way to safeguard ourselves against such dangers is to depend mostly on ourselves and on drags grown or made in India.
Q.-9. Causes of decay.-(a) Introduction of the Foreign Rival, viz., the Western Medioine, as the system favoured exolusively with State recognition and patronage.
(b) Consequent on laok of State !patronage, the Indian systems began to suffer deosy, which was hastened to some extent, by neglect of the surgioal Art by Ayarvedio practitioners and its assiduous collivation by the rivals.
(c) British exploitation of our drug and surgical market.-The huge profits made by British exploiters being due to the exclusive supremacy of State-patronized $W$ estern system, it was only natural that, under British rulers, every effort should be made to promote and ensure suoh supremacy, which neoessarily meant bad time for the Indian Bystem.
(d) The absence of big commeroial firms for vending Ayprvedic remedies on a large cosle and in the attractive manner in whioh the Western medicines were offered for sale.
(e) The general process of denationalisation which overtook us and resulted in our infatuation for everything foreign and indifference to everything Swadeshi, had its share in creating in us an infatuation for Western medicine and an indifference to our own Indian system.

If we are to retrace our steps and enter on the right path, it is necessary that our Government should give up treating our systems with that oulpable indifference which has been its attitude so far; let the Western system live by all means and let us profit by the lessons it has to teach; but, let there be no further neglect (if not also persecution) of Indigenous systems: Let the motto of the British rulers be "Live and let live."
Q.-10. The state (1) As stated above, the State will really be helping as a great deal, if they remove the unjust bane that they have helped in creating on the Indigenous System of Medioine; surely thie is not asking too much of an Indian Government.
(2) By making suitable grants for the fostering of indigenous systems; it is not too much again to ask of an Indian Government that the grants to the Indian system may bear a reasonable comparison to those for the foreign system; at present, the Indian system gets nothing and the foreign system, everything. I merely plead for bare justioe.
(3) The European Officers selected for work in India must receive instructions, as a part of their curriculum, regarding our babits, castoms, olimate, dietary, "etc.; propar dietary ia the sine qua non of all treatment.

Charaka.

## विनापि भेष्षजर्वर्यधि: पष्यादेव निवर्ततें। <br> न तु पथ्यविहीनानां भेषजानां शांतैरपि ।।

(4) Properly equipped and properly staffed. Hospitala and diapensaries of Indian systems ahould be opened all over the country; a system of subsidizing private enterprises should slso be vigorounly pashed.
(5) There should be instituted a suitable system of nedjoal registration, for recognizing competent Ayurvedic practitionere, the certificates issued by them regarding siok leave, absenoe from appearing in court on account of illness, health certificates and so on.
(6) Founding of new Ayorredio Vidyalayas and roting auitable grants to oxiating onea
(7) The employment of competent Ayurvedista in State-mantained institutions and pere mitting their employment in inatitutions reoeiving grante or reoognition from the 8 tate. In the words of our distinguished countryman, P. O. Chatterjee, Ex-Judge of the Punjab High Coart and Ex-Vice-Chancellor, Panjab University: "There is also no sound reason why the allo: pathic oystem alone should monopolise tovernment patronage and apport. The indigenone system which has sterling merits has a strong moral olaim for help from the revenue derived from the Indian people ${ }^{\prime \prime}$.
(B) Local boards.-I am thantful to the Distriot Boards of Jeseore and Pholna who have slready done their daty by Ayurveds and suffering humanity. My prayer is that other loon boards should follow very soon this excellent example.
(0) Universities.-Lahore Univeraity has made a small start, with a short two-year oourae, I reoommend the institation in every Indian University of an Ayorvedio fnoulty; the eriating Colleges and sohools may well form the basis, with neoessary modifications and additions, eapeoially on the practical side; the nniversity should itaelf maintain a central high-grade college, to whioh the several smaller institutions may act as feeders. The indrpendence of the several schools ahould not suffer; even in the conduot of the periodical examinations, the professors of the partionlar school should have a prominent part. Final diplomas are to be isaued under the joint aignaturee of the Principal and the Vice-Chancellor of the University.
(D) Private agencies.-These generally follow the example of the State: "As is the King, so are his subjects;" " Yatha Raja Thatha Prajah" as our anoienta would eay. Lot the Government but show its barest interest (or at least oease to be hoatile) and then, the baneful atmosphere that surrounds Ayurveda vanishes and help is sure to come to us from many a private soarce,for example, Rajas, Maharajas, noblea, charitable trusta and associations, religious endowments whioh have funds at their disposal, espeoially in your part of the country, and so on.

## aYURVEDACHARYA KAVIRAJ JNANENDRA NATH BEN KAVIRATNA, B.A., calcutta.

Q.-1. I prefer and propose to deal with the Ayarvedic system of medioine.
Q.-2. (a) Vaya; Pitts and Kaphs, which certainly do not oorrespond with wind, bile and phlegm as done by some, are the three prinoipal factors in the system, whioh, when deranged jointly or separately. give rise to the one or the other of the innumerable diseasen. Soatmyen-driartha-samyoga, Prajnaparadha and Parinama also play a good part in the cansation of disease. Health means the normal and natural state of the three faotore-Vaya, Pitta and Kapha in the system.

I am afraid the Ayorvedic theory has nothing to do with the so-called modern soientifo oriticism which, in my opinion, is not scientifio at all when oonsidered from the etandpoint of Eastern scientifio ideas-at least so far as the Western Medioal Soienoe, is concerned. The Western Medieal Sciences in my opinion, is only in ite intant state and is engaged at moot only in making observations and experiments and has not yet reached the scientifle stage.

The methods of scientific observation are also different with the Easterns and the Westerns.
(b) The question has been answered in (a).

First to find out by means of Pratyaksha, Anumana and Sabda, which one or more of the three first principles (Vaya, Pitta and Kapha) has been vitiated, and then to try to bring them in their normal natural condition.

The general efficaoy of the Ayurvedic treatment is marvellons and the least costly and the best auited to the Indians.

Nothing like returns and reports of the cases treated is preserved by the practitioners of Ayurveda, though considered necessary at present. Physicians are often, however, uatisfied as to the result, viz., whether the patients are oured or not.
(c) Certainly and perhaps in almost all cases.

Ayurvedic physicians are famous for caring chronic cases given up by the Allopathic doctors.

## Q.-3. (a) Yes, with several.

Every Ayurvedic physician, it should be noted, at least in Bengal, has got a charitable out-door dispensary of his own, where medicines are daily distributed free to the poor and the needy.
(b) (1) Yes, satisfactory in the large towns bat not sufficient in the mufassal villages. (2) Yes, satisfactory.

## 6

(c) There is not safficient medical provision for medical relief on indigenous lines in the mufassal villages, as everyone first turns his attention to the towns and citien, where it is sufficient. Ayurvedic phyaicians fay be subsidised in the mufassal villages.

The provision for medical education on indigenous lines is, in my opinion, quite sufficient.
Q.-4. Yes, certainly.
(1) Students of ordinary merit would not, however, care to be placed under them and they would prefer preceptors of ordinary merit. They are also necessary and useful factors in the society.
(2) It would be well and helpful, no doubt, if the Government can find means to provide for them. This want is keenly felt bat can hardly be removed exoept by royal patronage.
(3) Of course, if possible.

But Ayorvedic preceptors of first-rate ability as in every other sphere of life, would scarcely be able, under the ordinary ciroumstances, to find much time and leisure.

I don't think that there is any such institution in this Presidency, where all the three conditions are fulfilled. But, in my hamble opinion, Ayurvedic practitioners do not spare any pains to make themselves useful preceptors, so far as in their power lies, and to bring out, be it said to their credit, sucoessful pupils without any grudge even by giving free board and lodging in addition to free taition.
(b) No, I do not consider this ideal too high ; but the Government alone is able to carry this ideal into effeet by founding hospitals, museums and libraries.
Q.-5. No. I do not agree. It is absolutely impossible and undesirable, anless the Allopathio system usurps and absorbs the indigenous system, as it is trying to do.

Any mode of unification would be harmful to the Ayurvedio system, I consider the Ayarvedic system to be perfect, as standing the test of ages, even in the face of positive disfavour of the Government.
Q.-6. Certainly not. The modern medical soience is no perfect saience at all. It is only trying to become a soience. It is still highly empirioal.
(a) Does not arise.
(b) Do.
(c) Do.
Q.-7. (a) Not required at all. The certificates of the preceptors and the confidenoe of the pablic would be enough.
(b) To remove the obstacles against the indigenous systems, direct or indirect.'
Q.-8. The Ayurvedic system of treatment, as I have told you in 2 (b), is the least costily and the most auitable to the Indians.
Q.-9. Nothing more than the positive Government disfavour against the indigenoui systems and particular favour towards the Allopathic system.

Remove the causes and the matters will be set right.
Q.-10. By founding Ayurvedic hospitals and dispensaries in place of the Allopathic ones and by subsidy.

## (4)

## KAVIRAJ HARAN CHANDRA CHAKRAWARTHI, GHARMARA, BENGAL.

Q.-1. I propose to deal with the Ayprvedio system of medicine.
Q.-2. (i) The Ayurvedio system attributes diseases to three kinds of canses, viz., (a) Asatm-yendriartha-Samyoga असाल्म्यन्द्रियार्थसंयोग:, ie., cessation of the aotion or abnormal action of the senses, viz., the organs of vision, taste, smell, touch and soand ; (b) Prajnaparadha प्रज्ञापराव्व: or indisoretion, and (c) Parinama पीरणाम: or influence (of time and old age).
(a) By Asstmyendriartha-Samyoga is meant the ayoga or disuse, atiyoga or excessive use', and mithyayoga or abuse of the different sense organs. Continued inaction, for instanoe, of the organ of hearing owing to the absence of any sound stimulus may be called its ayoga or disuse. The prolonged audition of terrific soands, such as thander or cannon roar; may be termed its atiyoga or excessive use; the hearing of bighly shooking news, suoh as the loss of one's property or son, may be termed its mithyayoga or abase. Similarly with regard to the organ of tonoh, the continued suspension of its activity may be said to be its ayoga, its contaot with anything extremely hot or cold its atiyoga, serions wounds or its contact with poisonous or filthy .substances, ita mithyayoga. Again, in the case of the organ of vision, its ayoga will mean the continued suspension of its function through the prolonged oonfinement, for instance, of an individual in a dark oell; looking at the san or brilliant flashes of lightning may be called ita atiyoga and olose observation of a minute or restless object (which may strain the eyes) or fixing the eyes on a very distant thing may be said to be its mithyayoga. Thus in the case of tastef one may regard abstinence from food as its ayoga, over-feeding its atiyoga, and taking in of putrid matter or of an incongruous diet its mithyayoga. In this way the organ of amell also has ita ayoga, atiyoga and mithyayoga.
(b) Prajnaparadhe or indinoretion will mean the ayogn, atiyoga and michyayoper or thedivase, excosoivo use and abose with regard to thought, word and deed. By ite ayoga in mennt the complete abeyanoe of the powers of thought, speech and action. Ite atiyoge meane the over-axertion of the mental and bodily powers. Thus, quarrelling, reviling others and telling lies would amount to mit hyayoga of speech ; last, anger, etc., indicate milhyayogn or abome of the mental powera ; wilfol retention of arine, etc., and jumping, eto., indicate the milhynyogm or abnse of the physical powers. In ahort, hesides ayoga and atiyoga of thought, word and deed, -watever is harmful to the body implies their mithyayoga.
(c) Parinama or influenoe of time and old age. We hnve three principal eencone in this coantry-the Summer, the Winter, and the Rains. $\Delta y$ yoga, atiyoga and mithynyoga of theme seasons is oalled parinama; for instance, droaght during the rains indirate nyoga, exoessive ahowers during the rains or exoessive heat or oold in summer or winter meppectively indinate atiyoga, and ondue cold in summer and heat in winter indicate mithynyygn of seacons, that is, parinama. Decay also is the natural and inevita ble consequences of old age.

All sorts of diseases may generally he attributed to the causes above mentioned. Apart from these, there are some speoial disoases which may attack equally persona (of a particular locality) with diverse habits and modes of life, at one and the same time. These dispase are known in Ayurveda as जनपदोद्धूंसनीयव्याषिः or epidemic diseases. By way of illustration wo may mention Bubonio Plague and Influenza of modern times. These diseases break nut owing to the oontamination of air, water, etc., or to the abnormality of weather conditions. That there are some diseases which spread by contagion is recognized by Ayurveda. It must therefore bo said that such diseases have some inherent principle whioh affects others by contagion. But this by itself cannot be regarded as the primary oause of such dispases, because it cannot tako effeot unless there is a predisposition for such diseases brought on by other oanses.
Q.-2. (ii). Of the ingrediente of the body there are three principal elementa, vis., Bayu or vital corrent, Pitta or metabolia flaid, Kafa or lymph, derangement of whioh leads to diseanen. It these three elements sometimes render the ingredients of the kody, eneh as blood, etco., impure, they are called the evila (dosa). As the earth is being sustained in various ways by the netion of the sun, moon and the atmosphere, the body also is being kept up by the harmonious aotion of these three elemente.

Ayorveda, for the convenience of diagnosis and treatment, analyses the body into soven kinds of materials, auch as chyle, blood, flesh, fat, bone, marrow and semen, whioh are oltained from food through metabolism. Food properly digested is converted into a finer essence oalled रस: or ohyle, and a dross, which forms some of the excreta in the body. A colouring red sabstanoe in the liver and spleen adds a red pigment to the ebyle and transforms it into blood. Blood gete converted into flesh which leads to the formation of fat. Out of fat grows bone and firally the body comes to have marrow and the seminal fluid. The body is noorisherd properily by these ingredients. A portion of the dross above referred to is expelled from the body an sweat, orine, and stool. These seven ingredients may be rendered impure by the disordered action of bayu (vital current), pitta (metabolio fluid), and kafa (lymph) and thereby may canse diseases. For this reason they are also called dusya (things liable to become 'poisonous). Thene seven ingredients together with the three elements (bayu, pitta, and kafa) sustain the body and so are called the radioals (dhatu).

The scantiness, poverty or richness of these ingrediente brings on diseases while their equipoise makes for health. These have certain specific properties and like them every other substanoe in the world has also its peculiar characteristios. Indulgence with respeot to an objent with a speoific virtae may lead to the derangement or aggravation of the partioular element in the body relative to it; and the enjoyment of thinge having a nentralizing or contrary character lessens the strength of the element concerned. On the other hand, moderate and well-regulated en joyment of things of diverse virtues snoceeds in maintaining in harmony and consistenoy the different elements of the body and thns conduces to its health and vigour. This is the fundemental dootrine of Ayarveda relating to the health and diseases of the body and their treatment. Charaka has expounded this basio prinoiple of Ayurvedic Science in connexion with health and diseases, their origin and mode of treatment. (1).

Thas in the first instance by the nndue indalgence in things having similar virtues, the haman body loves its inner equipoise and there sets in what is called the degeneration of some of its principal elements. This marks the initial stage in the onset of diseases. Ayorveds regards this as the first stage in treatment of diseases. At the next stage there follows an aggravation of the malady through other excesses. Some symptoms of general unhealthinese. appear at this stage, but no sign of any particular disease can yet be traced. This is the second stage for treatment. At the third stage the system becomes affeoted throngh an accumulation of disordered elements spreading all over the body and other more prominent symptoms of sick:nees make their appearance. This is the third stage of treatment. The poison afterwardsbegins to react either upon the entire body or on any particular part of it in such a way as to tond to break out into a definite disease, impairing the whole system, such as fever, etc. It is true the actual disease does not yet appear with all its clear symptoms, nevertheless it becomes possible at this stage to arrive at a probable diagnocis about the nature of the coming diseanefrom the symptoms that are already manifest. According to Aurveda this is just the immediate.
premonitory stage for the actual attack by a disease, and it' would be the fourth stage of the malady for treatment. By an efficient (दोषनिर्हरण) mode of treatment the sctual onset of the
disease may be cheoked. But in the absenoe of this the disease must have its inevitable coarse; coming out together with all its symptoms. These symptoms have to be examined directly by the eyes and other sense organs as well as with the help of instruments; and it is on the basis of the resulte thus obtained that the final diagnosis of the disease is to be inferred. There is provision also for diagnosis through examination of the action of medicine and diet in the case of some diseases.

Ayurveda has not considered the fixing of names to diseases as sufficient in the matter of diagnosis and determination of the charaoter of diseases. According to it, each disease may assume various forms owing to differenoe in the predisposing and exciting causes; and unless this is kept in view, no treatment can be successful. A particular diet or medicine which may. be efficacion in a particular variety of a particular disease may be highly injurious if administered in the case of the same disease with different characteristics. Hot water, for instance, whioh is an excellent remedy in ordinary fevers, is highly injurious in bilious fever. Even though no definite name can be assigned to a disease, treatment may go on if only the deranged or disordered element in the body be ascertained. So, Ayprveda olaims to be able to diagnose and treat diseases that are already known as well as those that may be known in time to come.

Ayurveda has advised diagnosis of a disease after fall consideration of everything relating to the diverse elements and ingredients of the body, the characteristics of the patient, his habits, physical, mental and digestive powers, age, eto. Ayurveda does not therefore consider anch a diet as raw-meat-juice to which people belonging to oold countries are habituated, as suitable to vegetarians belonging to hot countries. In the same way complete abstinence from food and drink even for some time suitable to people accustomed to long fasts is regarded as unsuitable for those accustomed to taking half boiled beef, etc. In short, according to Ayurveda, the abnormal or unhealthy poverty or richness of the bodily ingredients brings on disease, whereas the remedy lies in their harmony and equipoise-when a complete absence of appetite indicatea the abnormal increase of the liquid element in the body, the proper remedy lies in complete abstinence or fomentation (स्वेद:). In the same way, when weaknoss, thirst and pain in the chest indicate the scantiness of liquid in the body, a medicine or diet that would tend to increase the liquid element should be given.
Q.-2. (iii). As regards aur country, the Ayurvedic system of treatment is ondoubtedly more efficacious than other systems of medical treatment, inasmuch as its principles of treatment are based on full consideration of the place, time, diet and customs of our country. In the first place as regards diet, the injunctions of Ayurveda are best suited to our countrymen. The Western system of medicine has hardly discussed the dietetics and oustoms of our country, while Ayurveda has laid down what is particularly beneficial or detrimental to our health after due oonsideration of the merits and defects of every one of our food-stuffs in all their different conditione and forms and of every one of our aotions. It has further enjoined that in selecting every diet, the physioian should olosely observe the condition of the place, time, vitality, natural constitution, habite and age of the patient. In the West the consideration of diets is based on ohemioal analysis of those ingredients ; but in a majority of cases, such a process hardly yields any useful result: If we analyse sugar, we find only oarbon and water; but I don't think that a carbat of charoosl can therefore produoe the same result as does a sarbat of sugar, Boiled rioe would, indeed, be a lighter diet to those who are uaed to half-boiled beef ; but for those people who live upon fine old rice and yet saffer from indigestion, raw-meat-juice can never be nsed as a diet.

Not to speak of other diseases, in cases of fever only (in which the notion prevails that the Allopathic system is the best) the diets considered by the A yurveda are well reasoned and quite suitable to our country. Acoording to Ayorveda when a food is not fully digested, it gives rise to a rasa (रस:) in which some portions of food remain in an ama (आम) state. This रस not being well arroulated, daots of blood and biles in the liver get ologged. And the blood that grows out of this ama rasa not being well filtored gets a good quantity of biles mixed up with it and such blood in combination with biles beeomes more warm than ordinary blood. And when suach blood is circulated through the whole system. the general heat rises ahove its normal temperature, and that is termed fever. A large quantity of biles being thus mired op with blood, only a amall quantity of biles can oolleot in the gall-bladder, and the bile duot remaining clogged, oven that small quantity of biles cannot discharge itself into duodenum. When the stomach is thus fonled, the power of digestion does not remain, and therefore it beoomes inoumbent to give rest to stomach, i.e., to fast; and that is the injunotion in this land of abatinence. But this sort of fasting would not suit those people of cold countries whe habitually take meat and possess an abnormally high power of digestion.' A little fasting makes flesh-eaters weak ia a very short time; and thia will be evident to all from the comparison of a case of an European with that of an Indian or for the matter of that of a case of coarnivorous beasts like lions and tigers with that of buils. Without due consideration are the : Weatern physicians presaribing for us diets expmined in their own lands and this is oanaing ua muoh harm.
. Secondly, in the Western eystem of meedicine, the number of drags seems to be rather limited; and in many cases treatment is made by means of patant medioines, . . Besides thema are
bardly any modicine for the treatment of chronic osses, anch as insanity, nervoun discames, (वातन्याषि), internal tumour (गुइम), ascites, chronio diarrhoes (ग्रह्णी), dyepepaia, cto. Then there are no medicines absolately in the matter of रसायन (prolonging longevity) चत्जिकरण (prolonging the power of generating haman being). Medicinea for बाजीकरण are not needed for the people of those coontries, where meat forms the principal food and wine makee the principal drink; but in a country where control over the sensual appetite is always thought desirable and where the majority of the people are vegetarians dieta cannot be of any apecial use in वार्जाकरण or angmenting the sensual power. In these daye of uncontrolled pascion, medicines for वाजीकरण are donbtless very nocessary. The Western can handly conoeive of रसायन (treatment to prolong longevity with sound health). In the Ayurveds io will be found described how by the five acts (पषकर्म्म), the haman aystem can be purified and the ₹सायन medicine can be applied thereafter to give longevity to human ife. But unfortunately thees things, for want of proper stady and application, are passing into oblivion. It will ho a great good done to the world, if we could now make arrangemente for the proper teaching and reeearch of these things.

Thirdly, douche is used by the Allopathio oystem for the purpose of oansing evaouation or of sustaining strength. But the methods of applying the douche are so varied. and so offeotive in the Ayurvedio system that treatment by means of douahe will be found in the majority of diseases.

Nextly blood-letting onder the Ayurvedio system is expected to yield botter resulte than under the Western system of treatment. According to the latter blood-lettinglis prescribed only in a few cases. But the Eastern system has presoribed blood-letting as a remedy in several diseases, even spleen and other diseases which are hard to be oured, are found to be oured by blood-letting.

Then again cauterization by alkali and fire and treatment by meang of oauterization by fire are special features of the Ayurvedic system. By these means many diseases can be oured. Even now in cases of piles and fistula, etc., treatment by application of alkali is found to yield better results than surgioal operations.

Even in the matter of surgical treatment in which the Westerns occupy the higheat place at the present time, even in this department of treatment, I know it from my personal experience of actaal operations that there can be no doubt the present soientific antiseptic processes are admirable; bat the Western nystems are in want of good medicines to induce healing up of wounds. If any wound for some reason refuses to heal ap, the only remedy with the Weaterns in 8 fresh operation, viz., scraping of the wound. But the Ayarvedio system poseseses euch powerful medicines for inducing granulation, that not to speak of simple absoesses or woands, oven sinuses oan be cured without the help of any surgical operation. (I have myself cured many patients of this type): Then again, the Western system does not seem to know the prooeas by which the cicatrix mark can be avoided, but this process of sarbarikaran (i.e., reoovering the original complexion of the skin after the wound is healed) is a principal thing in the treatment of abscesses or wounds under the Ayurveda. I have been studying and applying the BalyaTantra (Surgioal system of the Ayurveda) for the last"fifty years and"this has made"it plain to me that even in the matter of Salya-Tantra (Sargery'), as well as in many other respeots, the Ayurvedic system is saperior to that of the West.

There are many things in Ayarveda that are auperior to those of the Western soience in point of efficacy. But unfortonately there is no place or arrangement for the stady of those processes. And it is for this reason that at present the processes of donohe, blood-letting, canterization by alkali and fire are becoming things of the past in the Ayurvedic profeaions. The science is still there. Even if now these things are stadied and practised, researches made, that will be doing, no doubt, an immense service to the world. It is for this want of atudy and research, that to-day the Ayurvedic science of Balya and Balakya (surgery and optics, etc.), has dwindled into insignificance and the system of the West has risen to the pre-eminence. Even in the matter of the practice of medicine the medical system of the Weat is unable to core many diseases. Take, for instance, the case for Influenza which has been depopulating the country. The physicians of the Weat have not yet been able to discover any special treatment for thig disease. But the physicians of the East never failed in its diagnosis and treatment. And denpite the apathy of their conntrymen, they have been able to cure the majority of cases that came to their hands. It has been already stated before that the Ayurveda has so very systemetically and carefally recorded its methods of treatment of diseases that it will be possible by that system of medicine to cure diseases that have already come or will come into existence, provided they are not incurable by its nature.

Besides, whether a disease is easily corable or ourable with difficulty or incurable, oan be more conveniently ascertained by the Ayorvedic system than by the Weatern medical acionce. Fiven the ordinary vaidyas of our conntry can predict with oertainty long before, whether a $\cdots$ disease is incurable or whether a patient will die, a thing which may not be possible even for a civil surgeon well versed in the Weatern sciences.

And our last reason is this: the orade medioines of the Ayorveda is more useful and efficacious than the extracts of the allopathic system. Despite his attempts, man has not been able to get rid of the orade state of his food and that is what is keeping up his health and vigour; ; therefore if we want to destroy any physioal distemper, we will have neoessarily to send for its: remedy in things crude like his food. Although medical men of the West have demonstrated thation of the food taken, some matters suoh as nitrogen, etc., are assimilated in the system, and the rest., is thrown away, yet those rejeoted matters have their own significance; according to Ayorveda the refuses have to play its own part in the human physical system. A human body cannot live even for a moment if there be no refases (मल) in it. Thus in case of Phthisis (राजयक्ष्मा) when despite nutritious diets of varions sorts refuse matters preponderate in the body, it is these matters that support the system; and Ayurveda has therefore enjoined to retain the refuse matter (मल) in cases of Phthisis. If the signifioance and usefulness of these refuse matters:' could be denied, then man could surely live apon suoh things as oxygen, eto., obtainable in chemical laboratories; and the bread problem of the oountry would have been solved to a great extent. Let us explain by means of an illustration. According to the Oriental system, myrobalan (हरीतकी) is a prinoipal and laxative medioine. If you take out its essence, that essence will be tanio acid. Tanio aoid constipates, while myrobalan is a harmless laxative This tanic acid can be obtained from the bark of Babool trees (चट्वलम्) also. We ase the bark in stopping up looseness of the bowels. So, if we are to take the essenoe and let alone the crude things, many suah tuseful medicines such as myrobalan would be thrown away.
Q.-3 (a). I have no connexion directly with any institation, providing medical relief or medionl education on Ayorvedio lines.
(i) The few Ayurvedio hospitals that are in existence or those that may be established are hardly sufficient for the porpose of the teaching of the Ayurvedio system. In these days there are Ayprvedio physicians who have in partioular respeots acquired a name and fame in the country, but I would not think that they are competent to conduot any hospital, and the reason is this: they not having any pratioal experienoe of the surgery and midwifery, eto., cannot employ the same to any use.
(ii) I have heard that an Ayurvedic sohool has been established in Caloutta; but I -don't think that there can be any special arrangement for practioal training. Unless there are proper hospitals, maseums, libraries, gardens of medical herbs, attached to the sohool, Ayarvedic system, it seems to me, oannot be nsefally taught.
Q.-3 (b) I do not believe that adequate help towards revival and rescusoitation of Ayorvadia stadies will just now be available. But if the Government recognize this science, the pablio may possibly try for it and due aid could be expected in the near future.
Q.-4 (a) The remarks contained in olauses (1), (2) and (3) are partionlarly important no doubt, but there is really no possibility of an all perfeot Ayurvedio institution being founded in the near fature in this or any other province where adequate help for the purpose may be available. But if the Government approve and try, Ayarvedic education may be first imparted with the help. -of the surgeons trained in Western soiences and hospitals; afterwards teachers trained in all the branohes of Ayurveda will be available and under the gaidanoe of these able teachers a number of educated students may torn out every jear.
(b) An Ayurvedic branoh may be added to the already exiating medical colleges and hospitals which have been established by the Government and , with their help stadents may begin a practical training. Gradually when there will be quite a good number of men trained in all the branches of Ayurveda, separate Ayurvedio schools may be established after Western models. It is also possible to establish separate Ayurvedic sohools even now. One or two surgeons eduoated on Western lines may be employed to give practioal lessons in Sargery, but it will ontail considerable expenditure.
Q.-5 I regret I cannot agree with the view of the Oaloutta University Commission. I do not believe that orientalist will be able to reject things which are suited to their country in all its various aspeots and have very well stood the taste of age-long experiment and to which their people have beoome thoronghly habituated through long use and accept things saitable to cold. countries which have not been adequately examined by Western empiricists.

The methods of treatment under the two systems are entirely different. What is regarded as the best medicine or the best applioation of it by the Westerns may not appear so to the Orientalists. They detest medioines whioh prove injurious to men in some respecte. Potassium Bromide and Aspirin, which are useful in particular maladies but also harmful in some respects, eannot be regarded by Ayorveda as proper medioines at all. (a) In the first stage of fever when food and rasa remain undigested, the dootors would try to purify the system by the use of pargative and ;would immediately apply anti-ailing medioines suah as quinine; quinine being extremely bitter in taste and anti-bilious lessens bile and thereby lnwers temperatare. Bat by solowering the 'temperature no real cure is effected as loss of appetite and other ailments and complaints continue and general weakness. gradually inoreases. Under the circumstanoes this method of treatment tells upon the mnatitution of the people of this country, whose power of digestion is natarally

Weak. Again, like the taking of the juive of anripe froite, the ase of larative medicinee in smavasthan (भामावस्था) or that atate of fever in which food is retained in an unamimilated form in the gtomaoh, wholly wreoks the aystem. And it reems so me that it is for this reacon that oneme of indigestion and repeated fever are so widely ween in our country at the prosent day. Ayurveds cannot regard these methods as sound and as cuoh never sooept them.
Q.-6 I do not believe that there is any necessity of Weatern scienoce aroh an Physion, Ohemistry, Biology in the teaching of Ayurveda. Things which are dealt in Anatomy, Physiology and Sargery are made in concise and terse text. So it ie neoesaary that these anbjeots ahould bo taught with the help of all these Western eoienoes which partioularly relate to thom. There is no necessity of Bacteriology ; Aynrvedic Pathology is an all round soience, and as auch it neede noholp from Western Pathology.
A. Ayarvedio stady should be divided into three following coursee :-
(i) Preliminary or Licentiate course-three years.
(1) General stady in Anatomy and Physiology (both Eantern and Weatern).
(2) Materia Medica-(Eastera).
(3) Pathology and Bymptomology-(Eastern).
(4) Practice of Medioine-(Oriental).
(5) Sargery-Minor-Indian and Weatern).
(6) Infant Treatment-(Oriental).
(7) Rasavidya or Indian Chemistry.
(8) Indian Pharmacology.
(ii) Intermediate or graduate course-five years.
(1) Special knowledge in Anatomy and Surgery by the halp of Eastern and Western. method of dissection.
(2) Materia Medica-(-Indian with practioal lessons).
(3) Pathology-(Indian).
(4) Practice of Medione-(with sound and praotioal knowledge in Panohakarma (पक्षकर्म्म).
(5) Surgery-(Major with Optics) (Indian and Western).
(6) Treatment of infants, midwifery and gynæoology, eto.
(7) Rasavidya (Indian Chemistry).
(8) Pharmacology.
(9) The soience of pulse feeling.
(10) Medical jurisprudence (Western).
(11) Hygiene (Oriental with Western theory of the epidemio diseases).
(12) Philosophy of Ayurvedic system.
(iii) Advanced and post-graduate teaching-two years, and Reeearch-
(a) Sargery.
(1) Application of instruments.
(2) Do. spparatus.
(3) Canterization by alkali.
(4) Do. fire.
(5) Blood letting.
(b) Treatise on the diseases of eye, nose, month, throat, etc.
(c) Science of infant treatment and midwifery.
(d) Practice of medicine.

Those who will successfully try their research work in the above four sciences of the advanoed training will be eligible for the degree
(b) For the preliminary or licentiate course, a cound knowledge of the provincial vernacular and a general knowledge of Sanskrit grammar. For the internediate or degree course the student must have a thorough knowledge of Sanskrit literature and a general knowledge of Sanskrit Philosophy. This coarse requires five years' stady.

Sacoesaful candidates of the degree examination will alone be eligible for the post-graduate stadies (and research).
(c) The medium of the lieentiate course will be the provincial'vernacalar and that of the degree and post-graduate coarses will be Sanskrit.
Q.-7. I have no knowledge of medical registration-Medical registration seems foreign to me.
Q.-8. Allopathic treatment which has been adopted as is followed by physicians nowadaye it is almost an impossibility for a poor conntry like ours to undergo. Firatly for the proper diagnosis of diseases it is necessary to examine blood, arine and sputum at least with the help of the westorn chemical science and miorosoope. These scientifio diagnosis is imposesible in villages. And as it seems it cannot perfectly be demonstrated almost in all the towns and eitios oave and except Calcntta. Poor village doctors on account of their poverty, and those who are in oities on account of their parsimonions babit do not manage to keep all these eostly instrunente and apparatus. Eminent physicians of Calontta do not examine themselves. In order to be
treated by them it is necessary to get reports of urine, blood, etc., from at least three, modioal. men by spending four or five rapees at different places costing altogether Rs. 15. After being farnished with these reports the first physioian will take his fees and then prescribe. Thas we see the soientific diagnosis oosts at the very outset at least Rs. 20 by way of fee, and this seems the minimum charge. Doctors of established repatation take at least Rs. 100 if not more for presoription. Thank Heavens the village doctors have not yet been able to be ready with modern scientific instruments and so they diagnose their case by hypothetioal suggestions like the Baidyas (Indian physicians). Such diagnosis is therefore not at all scientific. . In thia oountry fever forms the majority of cases but it cannot be ascertained without blood examination whether it is malaria, typhoid or kala azar. Many patients die in most cases as a result of maldiagnosis where in Ayorveda there is no such trouble in this matter Under these ciroumstances a proper fee to an eminent physician suffices for the diagnosis. A comparison as to the cost of diagnosis has been made here both in Allopathy and Aypurveda. Fever is the most prevalent disease in this country. So let us now compare the cost of treatment of simple and malignant fever both from the standpoint of Allopathic and Ayorveda.

Simple fever duration seven days.


In anrgery eastern method of treatment is far less oostly than the Allopathic one. In Allopathy many things such as 20 per cent carbolio soap, lotion, wool, gazaze and such other thinge cost at least not less than Re. 1 in a day whereas in Ayurvede it would be done by easy available margosa water ( (निम्बकषाय). Sometimes specially prepared medioated ghee (घृत) worth only one or two xupees. It is almost impossible on the part of the poor to have Allopathio operation save and exoept in hospitals. But I have myself oured many poor men even of abdomen or liver abscess at a very nominal cost. Indeed medicine of Rs. 6 or Re. 7 per week is not rare in Ayarvedio treatment, bat that is not intended for ordinary patients and does not
require to be applied more than once even in serioas cases. To those of high repatation it in a bit oostly, but in Allopathy specially those who get their medicines from the diepensarise, firme of Bathgate or R. Scott Thomson or 8mith Btanistreet have to pay at least four times the Ayur vedio oost. At regarde diet, juioe of maowri dal, milk, meat juice and other choap macily arailable food are presoribed by Ayurveda. Whereas the expensee which we are to meet in $4 l_{0}$ pathy are foor times the oost on acoount of pearl barley, Plasmon arrowroot, malted milk, milk food, esseriee of ohicken and other foreign dieta. So there should be no question as to the unsuitability of sach treatments in poor countries as ours. Ayarveda in ite place is is a posaition to say " 1 can core disease without any oost". Late renowned Gangndhar Kaviraj of Bengal (reverend teacher of mine and of Maha Mahopadhya Dwarakanath Bon and others) ased to oure many complicated diseases only with the help of medicinal herbe which costa nothing in thin country. Whereas an Allopathic is unable to cure the simplest posible dieense without oost.
Q. 9. In the ancient days of Buddhism almost all the Rajas and Pandite of the oountry used to preach the doctrine of salvation from the stand point of Ahimsa and as such they did not think it proper to inveatigate and atady this soienoe which neeessitated killing of many animals and other cruel deeds. When the Brahmanical religion was re-establiahed at that time also the Brahmans who are investigators of all soiences were silent for fear of impurity in the study of Ayorveda. Thus this soienoe in majority fell into the hands of oneduoated poople and in this way many portione of it were lost for good. Henoe people lost regard for Ay porveda, ae surgery foll in the hands of the illiterate barbers, oataract operation in the hande of mal Baidyea and blood letting in the hands of the Gypsies. Then daring the Musalman period, the method of treatment under this aystem, which was primarily based on fasting, prevalent in this oountry of Sanyama or restraints as it was, did not reeeive any favoor at the hande of the Emperor, Rajna and other richmen. In cases of fever they preferred Yunani treatment whioh presoribed khitohuri or hatohpotch instead of Ayorvedio fasting. In this way the original mode of research was gone as the talented person gave up atudy of Ayarveda for lessening of their inoome and honour. So far we are aware we do not find any original research work after the 14 th centary A.D.

Then daring the English period Ayurveda auffired to a great extent on account of the people taking recourse to the mode of treatment followed by the ruling olass.

As such it did not reeeive any help from the Government nor favoured by the Government servants, Rajas, Maharajas and men of high rank and position. Under these ciroumstances many talented students neoessarily have not joined this department as it does not make much honour and money. Even to-day we find all the intelligent boys of the family take up Engliah stadies.

Those stadents who show no signs of promise in school come up for Sanstrit, Consequently this scienoe has ondergone much decay and degradation for being masinly read by the studenta of low mental calibre. What in ancient days was marked as signs of ignorance is now resorted to by the eminent physicians. Rightly does Charak say "those presoriptions and medioal combinations which are given above are intended for the less intelligent practitioners, i.e., they should treat as such as they have got no power of imagination and invention. The intelligent practitioners who are experienced in assomption, inferenoe, argumento and reasoning, should look upon these prescriptions as mere goide-works and should further expand their imagination as such." To improve the present state of Ayurveda the following means should be adopted :-
(1) Arrangements for practical lessons on the scienoe should be made with the help of hospitals and maseams fit for the parpose.
(2) Scholarships for original research works should be fixed. Reesearch scholars will work in some hospital or laboratory and will recover the, unhandled aubjects of Aycurveda.
(3) Research societies should be foonded in different provinces and an attempt should thereby be made for the recovery of almost lost medicinal herbs and also of medioal works.
(4) For the dissimilation of Ayorvedio stadies, hospitals, maseums and laboratories should be established in different provinces.

In this way if it is recognised by the Government and helped by rich and influential persons, many talented students of excellent calibre may again be had for the department. And mooh improvement may be expected from them. Now-a-days talented stadente very weldom oome to this department.
Q. 10. For its improvement-
(a). The Government will sanction monetary help and recognize the system and aleo the medical certificates of the vaidyas and will eatablish research institntes and moseums.
(b). Looal board will help with money and establish Ayurvedio hoopitals in different places.
(a) University will make necessary arrangements for edncation and examination of this department and will award reeearch echolarships.
(d) Following this private enterprises will establish research societies and help the Government in all their works.

## Bihar and Orissa,

(5)

## BAIDYARATNA PUNDIT MAGUNI MISRA BRAHMA KAVIRAJ, PURI.

Q.1. Ayurveda.
Q. 2. (a) Theory for the causation of the disease in the Ayurvedic system:-

That in a sound body there are Bata (वात), Pita (पिच), Kafa (\%फ) in equal proportion.' Disproportion of any one, any two or all the three is the causation of the disease. But sometimes if one of them becomes disproportionate it makes disproportion of the other one or other two. The disproportion takes place in a body due to several groand.s. Some of the grounds make disproportion of bata, some of pita and some of kafa.

Important of those grounds are the following :-
The following mainly make disproportion of bata:-Hard labour, eating nowholesome food, fasting, watohing nighta, preventing oall of nature, excessive fear, extreme sorrow ${ }_{2}$ rainy season, eto. The following make disproportion of kafa:-Eating sweets and fatty substance in large quantity, eating things whioh are not easily digestable, spring and winter season, eto.

The following make disproportion of pita :-drinking wïe, ourd, salty things, aoid things, fasting and anger, eto.
(b) The diagnosis and treatment are made according to the methods and prinoiple laid down in the important and ancient Ayurvedic books, viz., Charak, Susrata, Bagvatta, Madhabnidan, Bhabprakas and other important Ayurvedio books. But oare is taken at the time of, diagnosis and treatment as to the food, country, nature, Bata, Pita, Kafa proportion, age, medioine, digestive power, strength, season conneoted to the patient.

Excepting the diseases whioh are oured by surgical treatment all sorts of diseases are generally treated and show hopeful and good effects.
(c) In certain diseases Ayurvedio treatment is more efficaoions as patients are found to get benefit who failed to get benefit in other system. Patients have been found to get mora effioscy in the following diseases:-
(1) Bataroga (वातरोग).
(2) Typhoid type of remittant fever.
(9) Janndioe.
(10) Hicoup.
(3) Dysentery.
(4) Indigestion and dyspepsia.
(5) Cough.
(6) Spleen.
(7) Chronio diarrhœea.
(8) Anemia.
(11) Asthma.
(12) Insanity.
(13) Insomnia.
(14) Rheomatiam.
(15) Colic.
(16) Odema, ete.
Q. 3. (a) I am Aypurvedio practitioner for over 35 years. I am also Professor of Ayarvedä of Government Sanskrit College at Puri.
(b) I do not consider the existing institutions satisfactory. A general note is enolosed hereto which deals in detail how the defects may be remedied.
(c) Please consult the same note.
Q.4. I consider that the ideal medioal training of Ayorveda requires that students should be placed under the personal guidanoe of teachers of first-rate ability and of recognized standing in the subjeote; that the teachers and students should have access to well appointed hospitals; laboratories, libraries and museams; that the teachers should have suffioient leisure to be able to parsue independent investigations in subjects.

I do not think there is any institation well equipped for giving sofficient training bat there are institutions whioh oan be of help if some additions are made to them.
Q. 5. I do not agree with the view of the Calcutta University Commission as contained in this paragraph.
Q. 6. There will be better improvement if the Ayurveds studies will inolude the elementary methods of scienoe, viz., physics, chemistry, aurgery and bacteriology, eto.
(a) There may be two standards in Ayurveda corresponding to L.M.P. and L.M.S. - cxaminations in Allopathic system.
(b) The students' preliminary qualifioation may be up to second Sanskrit examination.
(c) The media of instruction may be in the vernacular of the place and Banskrit.
Q.7. For the present registration is impractioable bat it may be easily enforeed after some years if the ayurvedic education be given in the proposed method.
Q. 8. The comparative cost of treatment (Allopathy and Ayurpeda).-Ayorveds is less costly in general. Medicine herbs are available everywhere and within easy reach of all. The patients who make both sorts of treatment (Ayorveda and Allopathy) generally say by their experience that Allopathy is more costly.
Q. 9. The Ayorvedio aystem decayed by the spreed of weotern ednoation. Many perronne did not edopt this line as Ayrredic system takes more time and labour. The A yurvedic practitionera. and masters did not get fitting remuneration. Even cons and suocesoore of Ayurredic family physioiane left their family profession and took ap to other professione and educatioue giving larger remaneration. The works of Ayarveda being written in Snaskrit they were not to the easy reach of all people as sanskrit education deonyed in the oountry. There are many $\Delta$ yurvedic books in palm-leaf which for want of adequate patronage are not publiabed and wonsequently cannot come to the ensy reach of people.

This can onty be revived if the Government will grant adeqnate belp to remove the defecte otanding on the way. Government may spend money to atart echoole and oollrges for Ayor vedio eduoation and dispensaries and hospitals and pabliahing old books. The methode aro not far to seek. The Allopathy and Ayurveda are of the aame olase of acirnce. So it is necessary that methods adopted for the suocess of Ayorveda must be the aame as are in onse of Allopathy.
Q. 10. It is annecessary to describe here anything more than given in answer to paragrnph 9. It is sufficient to state that Ayurvedic system can be fostered and promoted by the stato, eto., if it is patronised in equal way as is done in case of Allopathy by the State, etc. The Allopathy and Ayurveda are of the same sort of practical seienoe and so for the improvement of Ayurveds the methods adopted for the improvement of Allopathy are sufficient.

## Note on the Ayobtedic School of Mbdicine, Sangerty College, Pubi,

1. The professor of the Ayurvedic school has asked me to express my views on the traching of the science and to draw ap a list of appliances which I consider necessary to give effect to the same. It is with great pleasure that I do so. Like every other Hindn I feel grently interested in the success of the new experiment which the Government has ao kindly andertaken.
2. Object.-There is a crying need of Ayorvedic training all over India, especially in Orisea where qualified Kabirajas (Ayurvedic physicians) are scarce. The object of the school is therefore to turn out men trained in the Ayurvedic practioe of medicine which by virtue of ite indigenons origin is sure to reach the masses more easily and more oheaply than through the Enropenn draggists' halls. The Ayurvedic school therefore possesses potentialities of far-reaching character. Hitherto Kabira jas have been receiving training in private tols whose limitations have materially hampered the progress of the Ayurvedic system. There oannot be and need not be any dispute regarding the usefuliness of any system of medicine. All systems are Bisters of Mercy devoted, each in her own way, to the alleviation of the miseries of soffering humanity. The fact that the Government has undertaken to impart inatruction in A yurveda and to train up men both in ite theory and also in its practice is, I consider, a great step in the mach-desired direction.
3. Courses of study.-The coarses of study preseribed by the Sanskrit Association will, I am told, occupy seven years. It would have been well had the courses been defined in the form of syllabus instead of eet books. For if the subjects of study were ennmerated, they would havo left ample scope to the professors in their work and thereby enabled them to shorten this long period of study. The most important gain would have been in the way of discouragement of mere book-learning, the ever present temptation to pass an examination by memory work. It is, however, a great sorprise to me that there is no mention whatever of practical training, and no arrangements have, I anderstand, been made or proposed for this most valuable part of the work of the Ayorvedic school. If Ayurveda is to be taught as it ahould be, it mast be tanght like every otherbranch of science. Excluding surgery, the knowledge of whioh is at present extinet the subjects which Ayurveda deals with may be classified as follows :-

> I. Anatomy and Physiology. II. Pathology and Hygiene. IV. Medicineology (inoluding Pharmacy, Materia Medica and Therapentics).

Of these Anatomy and Physiology ocoupy a emall part and may well be finished in the first year. Pathology will occapy the second year and the third and the foorth sabjeote inoluding Obetetrica, three or foor years according to the proficiency aimed at. If instead of teaching each of the preseribed books one by one, a plan like the above be followed, the courses of stady together with practical training may be completed in five years, if not in four.
4. Students.-For efficient teaching it is absolntely necessary to select soch stadents as possess a competent knowledge of Sanskrit. The school will train up men to practise a profession, more or less lucrative, and will therefore attract stadents who are not fit for it. The life and death of a vast population among which they will practise their healing art cannot be left to those who, to use a strong word, are at best mere charlatans. The stadente desiring admission should possese not only a competent knowledge of Sanskrit bat an amoont of intelligence, a habit of observation and facolty of entering into details. For a minimom qualification in Bankkrit the candidates - chould have passed the Sanakrit Middle Examination; but the Sanskrit qualification however great, should not be the only test for admission. Daily experienoe telle me that there are students who are by nature unfit for scientific study. The school must be at the begianing contant.
with materials which are available, but cannot aspire after the performance of an impossible feat. Given right materials and right provisions for teaching, stocess is ensured. Having regard to this point I would keep the doors of the sohool open to all comers, whether they are residents of this Province or not, the Government stipends being reserved for the students for their encouragement.
5. Staff.-Considering the length of the entire course and the fact that new admission will take place every year it is obvious that the teaching staff should consist of at least five persons, if not six. There is as yet for the first year no necessity for more than one professor ; but when the second-year commences and new admission takes place in the first year there will arise the necessity for appointing a second professor. Thus in the course of the next five years at least five professors will have to be appointed to take charge of the five or six or seven olasses of the school. If the number of new admissions be limited to a dozen, the number of students on the rolls of the sohool will come up to seventy-two, in six years a number too large to be accommodated in the present college bailding. It will be then time to consider the advisability of removing the Aywrvedio department from the Sanskrit College and to give it a separate independent existence. I have not the least doubt in my mind that if the department be rightly condocted -with every facility for efficient teaching, the school will develop into a large and noble institation "of which Orissa may well be proud. In this connexion I should like to add that an extra teacher -a part-time qualified assistant surgeon-should also be appointed to give practical lessons on Anatomy and Western Physiology. It is of conrse essential that this teacher should know the terminology and nomenclature of Ayprveda. He will be in a position to demonstrate the broad facts of human Anatomy and Physiology with the help of lower animals, occasionally perhaps dissecting dead haman bodies to demonstrate Pathology and also to teach vegetable morphology. I believe, the Hindu professors of Ayurveda will be glad to have a teacher trained in the Western Science of Physiology as their colleague; for the goal of the Ayorvedic school should after all be advancement of the science, and every aid, whether Indian or European, should always be welcome in furtheranoe of the object.
6. School hours.-The sohool hours should be from half past seven to ten in the morning and three to half past five in the afternoon. There- is no reason why the Indian aystem of holding olasses twice in the day should be abandoned, especially in a Sanskrit institution and with peoples who are residents of the town. The early hours of the morning should be allowed to the peoples and professors for bath and worship and the midday hours for taking food and rest before they begin the afternoon lessons. The present system of holding olasses during midday from $10 \mathrm{a} . \mathrm{m}$. to $4 \mathrm{p} . \mathrm{m}$. has nothing in its favour except the convenience of these students who happen to reside at a distance.
7. Equipments-(1) Laboratory.-The demands of every branch of science are various, and those of medicine whether Indian or European are not less. No soience can be learnt without adequate practical work. As I hinted above, the teaching of Ayurveda should be modernised as far as pogsible without detriment to the principles of the scienee. It is a well known fact that those Kavirajas who have combined the knowledge imparted in the medical schools and colleges with that acquired under a competent Kaviraja have been very suocesaful physicians. The modern method of teaching followed in colleges enables the stadents to acquire more knowledge, albeit less deep, in a short time than it is or was possible in tols. The old hostel of zilla school may well be utilised as the Ayurvedic laboratory. It consists of three large rooms with thatched outhouses, etc. One of the rooms is to be used for the museum and apparatus, the second as a store room and the third as the student's laboratory. At present the number of students being small, lectures may as well be delivered in one of the rooms. The sheds are to be used for the preparation of drugs, such as calcining of metals, oooking of medicinal oil, etc. I have not a very distinct recollection of the rooms but I think they are somewhat dark. This defect, however, oan easily be remedied by opening some clear-story windows. A laboratory bearer on Rs. 7 to 10 should be appointed. The pay of the man mast be such as will induce him to stick to the post because the usefulness of a laboratory bearer increases with the length of his service.
(2) Dispensary.-Practical knowledge of therapentics oan be obtained only by treating patiente. A dispensary is therefore a sine qua non: In Ayurvedio tols a dispensary forme neoessarily a prominent part. So also in medical schools and colleges where not only dispensaries but. also hospitals are maintained. The Professor of Ayurvedic Medicine should therefore be required to treat gratis patienta (say between half past seven and half past eight) who come to the sohool dispensary, the students taking notes of the diseases and the medicines presoribed. The necessary medioines, unless very expensive, should also be given gratis. Fortunately most of the Ayurvedic medicines are cheap. Besides, the students will have prepared the medicines to acquire the knowledge of pharmacy and the cost has therefore been already incurred. And what better use of these medioines could be than dispensing the aame to the poor $P$ It is to be remembered that no Kavirajoharges any fee for presoribing medioines for the patients who come to them or ask any price for the same. The Ayurvedic dispensary will thus be a helpmate to the Government charitable dispensary of the town. With due oo-operation the two will prove a boon to Puri-a seat of pilgrimage for thousands of our country men.

This duty of the Profeasor of Medioine raised the legitimate question of his salary. It is obvious that if he is to treat the patients gratis for the sake of teaching his pupils he loses
considerable practice. It is farther to be noted that he will be engaged in hin echool dative for at least four hours daily both morning and evening. It in thas fair that he ahould be paid an adequate allowance. It is well known that a competent Kaviraj of eatablished reputation like tho profeseor who hae been appointed earna a great deal more than the salary which hae been offered to him. The same consideration should also be shown to thoee profesome who may be appointed afterwards. It is of conrse nnderstood that the profemors will be allowed to practioe outaide the sohool hoars
(3) $A$ garden of medicinal plants is, I oonsider, aleo neceseary. It is true many of the planto used in the Ayarvedic medicine are common enough and oan be eacily prooured. But the faot that they do not grow at one place and that many are not found at Puri, in to be noted. It in therefore necessary that the students should possees ample facility for getting acquainted with the habits of the plants which they use as drags. This can only be eecored by a garden of wellstocked medicinal plants. At the lowest estimate abont two hundred species of planta, many of which are large trees, have to be grown and taken care of. I would suggest that at leaat ten acres of land be acquired by Government, preferably olose to the school, if the soil and aituation be favoorable. I would grow not only the plante whioh are not found at Pari but aleo thoee which grow almost everywhere along road sideas and hedges in order that the atudenta may have a comprehensive view of the vegetable kingdom in ita relation to the healing art. To economice space it will not be possible to arrange the plante consisting of herbs, shrabs and trees acoording to their medicinal properties; bat an attempt should be made in laying out the garden as far as possible. Somewhere in the garden there should be amall pond for the growth of acquatio medicinal plants. Besides the initial oost of acquiring land levelling, improving soil, fenoing and laying out the garden generally, a recurring expense for the apkeep of the garden will neoessarily have to be borne. I think four malis of Ra. 7 a month eaph will be able to take care of the plante, the Professor of Materia Medica being the Saperintendent.
8. Cost.-I am not sare whether Government calculated the cost of the Ayprvodio Bohool while opening it, and contemplated its development along the lines I have briefly indiasted above. But surely nothing will be gained by dwarfing ite natural growth when so maoh expeotation has been raised in the pablio mind. Thelscheme I have sketohed will not, I hope, be considered too ambitions even for Orissa-

Non-recurrong charges.



## United Provinces.

(6)

Dr. PRasadi LaL JHa, lam. \& g., CAWNPORE.
Thi Princtples of Dilanogis (or Ayorvida).
In Ayorveda, the questions of diagnosis and prognosis are intimately conneoted with each other. They, therefore, will be disocused together. The suitable linee of therapoation are deoided by them.

The two general and gaiding principles of diagnosis for examination of the patient acoording to the Ayurvedio system are-
(1) The Ayn-Pariksha or the prognostio considerations, or the prognosis.
(2) The Vyadhi-Pariksha or the diagnosis, or the determination of the disease process.

Briefly the Ayu-Pariksha involves the investigation of the various factors about the patient, whether existing in his body or outside it, which influence the prognosis. The varions factors which lead to the lowered state of resistance or natural vitality of the patient are to be discovered in the various organs of the patient and his environments.

Ayo-Pariksha is thas an approximate estimate of the state of natural resistanoe as it existed in the state of health of the individual and as it exists during the state of his illness.

The Vyadhi-Pariksha or the diagnosis of the disease, on the other hand deals with the varions other factors which enable the physician to recognise the disease fully; that is, these factors are investigated with the view of finding out the extent of the disease process and its nature exactly. The Vyadhi-Pariksha, in short, is an approximate measure or estimate of the extent or virulence of the Vikrit Doshas or the disease.

Thus, the examination of the patient according to these two principles makes it possible for the physioian to form more or less approximate estimate of the life processes or activities or the state of natural resistanoe during disease and also to form an approximate estimate of the extent of the disease activity or process during life. In short, by the examination of the patient according to these prinoiples, the physioian is believed to understand the aotual processes of life and those of disease as they occur in a patient during illness. The therapentical actions of the physioian and other minor prinoiples of diagnosis are subordinate to the above two general principles. Such a physioian oannot be accused of (acoording to Ayouveda) malpraxis, though, in some cases, even when everything else seems to be in favour of the patient, the disease suddeinly gets worse without apparent canse and the patient dies. The Ayprvedio scientists attribute such sudden unfortunate terminations to Daiva or karmas of the past life.

Therefore, the examination of the patients on these prinoiples is the first duty of the Aypurvedic phyaician before he applies or employs any therapeatical remedy or kriya.

There are only two soientific tests, or bases of diagnosis, which control the investigations of the above nature; viz., (1) Pratyaksha Praman or physioal tests or examinations,' (2) Anuman Praman and Yakti or methods of deduotion or induction. The third, or the previous Enowledge of the medical and allied sciences as handed down by Ayurvedic erperts, is also essential in the case of its new adherents or disciples. No non-medioal man or a first year stadent can be regarded as competent enough to go about diagnosing the cases in a scientific manner anless he has attended the clinioal lectures.

The two principles mentioned above require a brief comment separately.
The.Ayu-Pariksha.-Before commencing the diseussion of the Ayn-Pariksha or the principle of prognosis according to Ayurveda, the reader is to bear in mind the prinoipal factors which influence the average age limit of hondred years of human beings. They are the following:-
(1) The Prakriti-Gan or the inherited state of physical and mental constitation or resistance.
(2) The Atma-Sampat or the reserve of the past karmas of the Atma.
(3) The Satyma-Sayyan or briefly the synergestic or favourable conditions of Indrya-arth, karma and kal, i.e., diet, regimen and seasonad or atmospheric conditions.

The various factors which influence the prognosis are as follows:-
(a) Hereditary influence as shown by the Prakriti and many other conditions inherited from the parents, whioh lower the natural resistance and consequently the age limit of Aynas well. Examples of such diseases besides the Prakriti are insanity, emaciation or atrophy, short life, hmomphilia, quarrelsome nature, thin and lean constitation, eto.

Prakriti.-In determining the Doshabal-Praman or the proportions of the inherited Doshas which infuenoe the various Prakritis of men, it is to be remembered that it depends upon the Prakritis of Shakra and Shonit or the spermatozoon and ovom; Kal (age of the patient and the season), the nature of the womb or Garbhasbaya Prakriti, or the diet and regimen and other oiroumstances of the mother during foetal life and the Prakriti of the Panoh-Bhoutik Drabyas.

Naturally some persons are either Vatal, Pittal, or Slaishmal, ie., individuals with larger or excessive proportions of one of the three doshas in their constitution. The Sam-Dhata Prakriti individuals and Sunsrishta are also met with, i.e., individuals of normal and ideal Prakriti or mixed Prakritis are also met with, but the ideal is as a rule rare.

The excessive proportions of the doshas in the former three kinds influence the natural resistance of the patient and make them more liable to those diseases by slight variations in Ahar, Vibar and Kal antagonistio to the patient's 8atmyk conditions of the same.

The Sam Dhatu Prakriti individuals practioally remain safe or immane to Doshaj diseases, The oharacteristio features of the individuala of the Vatal, Pittal and Slaishmal type enable the physioian to reoognise them. By natore, these men are unsafe from diseases similar to their
inherited Prakritis under eiroumstanoee of unfavourable kind when thewe Doohne inermee natarally within the living beinge generally in the various seacons of the yenr, and af oprtain periods of life.

Usually the 8laishmal individuals are natorally strong and long lived; Pittal is naturally of average strength and of average age; the individual of the Vatal type of Prakriti is weak or of lowered state of resistance naturally and is alpayn or short-lived.
(b) The circumstances noted above are examples of natural conditiona of the individuals, which influence the Ayu or the natural vitality or resistance. There are other factore which are observed to influence the same in the Vikrita state of the Doshas or direased conditiona; theme add to the strength of the Vikrita Doshas or render them more virulent. Ruch an Hrtu, Dooshya, Dosha, Desha, Kal, Linga, etc., of the Vikara. Bome of these will ke briefly deait onder Vyadhi-Pariksha. It will suffice here to remark that the Vyadhi or Vikriti in a patient is Balvan, Madhya-bal, or Alp-bal aocording as the factors noted above nre eithrr Bamva (aynergestic or similar to) or Viparita (antagonistic) or Samanya or neutral, that ia, neither favourable nor unfavourable to the patient's Prakriti and disense in any way.
(c) The examination of the Bar of the patients. The Bar represente the Bal or natural resistance producing substances varying in different individusis and is another important factor which inflaenoes the Ayar-bal and also the physical, mental and mocial features and other characteristios of individuals of varions types. According to Aywreda these Baras or esoencee or natural vitalising substances are described to be produced within the akin, blood, musclre, fat, honemarrow, Shakra and Satwa (of. the organo therapy).

They are thas eight different kinds of internal secretions collectively known as 0 ja identified with bal or vitality or natural resistance. The varions proportions of the above Saras give rise to eight types of individuals amonget the human beings differing from one another in physioal and mental and social oharaoters of features. (of. the Anthropologiosl features of various typea men and races-See any book in Anthropology and compare it with the permanent, coientifio nature of Ayurvedic Anthropology).

The presence of these natural vitalising or immunising substances or saras of the body influence the natural resisting power or vitality or bal of the patients. Aocording as the asras of the various kinds exist in normal, excessive or deficient states (in different individuals of different stature, etc.), the individuals are said to be Madhya-bal, Ati-bal or Alp-bal, respeotively, and also Dirgha-ayn, Madhya-ayu and Alp-ayu (cf. The internal secretions and the unsettled humoral theory of natural immunity of the modern scientists. Ref. latest Pathology, e.g., Green's).

The scientific ase of these sar in diagnosis is the peculiarity of Ayurveda and is not met with in the other systems. The knowledge of the sar is not met with or underatood in the othar systems at all. A yurvada leads others in this respect.
(d) The Bamhanon or the physical structure of the various individuala. Naturally wellbuilt, thin or lean fellows or individuals of ordinary average physical structure are respectively Ati-bal, Alp-bal and Madhya-bal. They are similarly Dirgh-aya, Alp-ayu and Madhya-ayu.
(e) The Sharir-praman or the stature of different individuals represent different degrees of atrength of resistance (cf. the uncertain methods of measurements, eto., of the modern jurispradence and note the permanent value of Ayurvedic science).
( $f$ ) The Satmya or favourable circamstances or different individuals influence their bal or resistance and ayo differently; that is people in good circomstances and leading temperate lives are usually long-lived.
(g). Satwa-bal or Man differ in different men who are of either Pravar-satwa, Madhyamsatwa or Avar-satwa.
(h) Vyayam-shakti or power to do physical work.
(i) Ahar-shakti or the power to digest food.

In (h) and (i) the men are also of three different types as regards natural resistance,
(j) Vayah or age of the patient as young, adolt and old who are reapectively slaishman dhata praya, pitta-dhatu praya and vata-dhatu praya. That is they are respectively less fitted by nature to resist diseases of the kaph, pitta and vata doshas respectively.
(k) Kal stande for either different periods of time sach as day and night or six seasons of the year, and se on. This is called sambat saratmak kal.

Kal also stands for the different stages of the rog or a disease and age of the patient.
The object of these periods of kal are for the nse of therapentical methods or remediee according to proper indications, and hence the six periods in the case of the rog avaetha are called kriya kals.

Nors.-The knowledge of this timely warning of the great complioatione likely to bappen in the virits atate of the doshan at the different periods of the year or asasons of the year, and at difforent ages of the patiente and ctages of the dicease, is known as pretiputtigyan. The remedy emploged as angsented by the fnowledge of the grave eomplicetion before ite ocourranoe is called anughthangyan. For an example eee the oecrurronce of Faman-Tyeped eomphiontion by the use of the Vaman-Karma at improper periode of kal. This in an important bacis of the rationality of lhe $4 \boldsymbol{y}$. vedic parikoha.
( $l$ ) For the approximate estimation of the probable duration of life, the A yorveda describes certain signs indicative of ill-omens or death of the patients at probable periods after the appearance of those signs. This part of progonosis of Ayurveda still leads others. It is in no way identical to the prognostic factors of other medical systems. The signs desoribed in connexion with the body of the patient and known as purush-ashrita are important. The second class of signs observed by the physicians in the patient's environments and other circumstances are called parash-anashrita ; these are not so reliable as the first gronp. But these latter also influence the duration of life of the patient indirectly by lowering the natural resistance of the individuals:

The knowledge or observation and interpretation of these is useful to the physioians for adopting prophylactic and preventive steps in time. These grave signs or ill-omens foreshadow the unfavourable termination. Most of these factors have already been referred to above.

For these reasons, the first duty of the responsible physicians is to examine the patient for ayn or probable duration of life and then for vyadhi or the diagnosis of the disease.

All these factors, as gathered by the physician himself either by physical examination or observed outside the patient and used for the estimation of the probable duration of life, are valuable according to the methods üsed in their investigation (e.g., apta or authorities, pratyaksha or results of physioal examinations and other demonstrable tests, and lastly the anuman or deductive and inductive tests). That is, the diagnosis is to be based upon the correct soientifio observation and the scientific and rational interpretation of those factors.

The value of these signs thus depends upon the apta itself (knowledge as received from the guras and authorities), pratyakaha praman or visible and physical proofs (as observed by the physician in the patient's body) and anuman praman or conclasions drawn or inferred from answers to the leading questions put to the patient or interrogation of the patient.

Amongst such faotors, the following are to be examined by all those physicians anxious to know the probable duration of their patient's life in state of health or disease.

Most of these will be found to be of great value, if made ase of by the insurance doctors-
(a) Varna, swar, gundha, sparsh, rosa.

These refer to the functions or perceptions of the sense organs of the patient.
(b) Chakshu, shrotram, ghranam, rusanam, sparshanum.

These next five factors refer to the signifioant alterations in the physical features or functions. of the sense organs of the patient and observed by the physician.
(c) Satwam, bhakti shoucham, shilam, achar, smriti.

These refer to the healtiny or unhealthy functional state and attitude of the patient, e.g., state of the manas, devotional tendency, state of cleanliness or filthiness, temper, habits and oustoms and memory of the patient.
(d) Akriti, bal, glani, tandra, gauravam, laghavam, ahar, vihar, aharparinam, upaya apaya, vyadhi, vyadhipurvaroop, vedana, upadrava.

Of the preceding group of signs, some are in connexion with the state of the disease or vyadhi itself; some other factors refer to the patient's diet and general condition (e.g., state of sleepiness, etc.) ; some of them pertain to the natural resistance of the patient and the light or serious oharacter of the disease and to the results of treatment, etc.
(e) Chaya, practichaya, swapna-darshan, dootadhikar, aturkul-bhava-vasthantarani, bhayshaj, sambritti, etc.

This contains many signs and features to be examined outaide the patient.
All the above factors are to be examined by the physician through interrogation and phym sioal examination of the patient. For full reference see Indriyasthan of Charak.

The above factors belong to the two following groups:-
(1) Puraha-ashrita factors or those existing in the patient's body.
(2) Pursha-anashrita factors or those that exist outside the patient or in his environments. or other conditions.

Of the former group there are two varieties-
(a) Those that influence the life duration or aya by altering the prakriti or lowering the natural resistance and thas predisposing the patient to certain diseases to which he is more liable by his own nature. These factors are known also as swasthyarishta, Most of these have already been considered before, such as sar, vayah.
(b) Those factors which exist as signs of pathological conditions. These factors are also known as vyadbiarishta. They also influence the duration of life.

The factors of the natural type are reoognizable in the following which also influenoe the patient's life by influenoing the prakritik :-
(1) Patient's jati, caste or profersion.
(2) Patient's kol, or family oircumstances, ages of the parents and sisters and brothers if alive. The duration of their lives if dead and canses of their deaths and so on.
(3) Desha. In regard to the deabe or country or nationality of the patient, various other considerations follow-
(i) Birth place of the patient.
(ii) The place, country, where he was brought up.
(iii) The nature of shar-vihar, or diet, regimen, castoms, eta
(iv) Patient's residence and country.
(v) Bal, or natural resistanoe of his contrymen.
(vi) Similarly, states of satwa, satyma, sar, dosha, bhatti, vyadhi, hita and ahite of his countrymen, most of those have been already considered; hita and abita will be referred to in therapeatics ; vyadhi will be considered in the examination of the vyadhi or disease.
(4) Kal, already referred, and will be referred to again.
(5) Vayah or age of the patient.
(6) Pratyatmik or individual characters or signs predisposing a man to disenses of partioular kinds ending in death.

All these factors are also described onder the following gronps:-
(a) Jati prasakta or arising from caste or profession.
(b) Kul prasakta or characteristics of the family.
(c) Deshanu patini or national factors.
(d) Kalanu patini or influences of either the seasons or atmospheric and thermal conditions, or of the various stages of the vyadhi or disease.
(e) Vayonupatini or the influenoes of unfarourable type owing to the differenoes in ages of the patiente.
(f) Pratyatma niyata or factor of individual characters varying in different patienta. Some persons remain quite immune even doring severe epidemics.

All the above factors can be illustrated both from the Ayorvedic works as well as the modern systems of medicine (e.g., Osler's or Taylor's medicine). These facts are commonly gathered and noted down by the modern medical students when the patients are admitted into the hospitala. They are incladed under interrogation of the patienta and known as history of the patienta family, caste, profession and history of the present illness, environmente and complainta, eto., and therefore require no farther explanation. The conclasions drawn depend upon the induotive and deductive methods.

The factors of the second variety of the above or vikriti or pathological signs and aymptome of a grave character are of the following types :-
(a) Lakshun-nimitta or the signs of ill-omen ocearring together simultaneously are indicative of the unfavourable termination of the disease. For example, sannipat apasmar in incurable and ends in a particular disease.
(b) Lakshya-nimitta or the well-known complications of the grave character indicative of deaths have been described in the diagnosis or nidan of diseases.
(c) Nimittana-rupa or nimittarthanukarini or the complications of a grave nature arising in the course of diseases and also producing the effects similar to the cause or nimitts of the disease. And in this way this class of complication adds to the gravity of the inourable vyadhi,

Conclusion.-The duration of life or ayu is influenced by the prakriti-bal or the natural resistance and the dosh-bal. It has also been shown how both are influenced in different individuals of different ages, races, etc. The ayu or doration of life thus depends upon the termination of the ryadhi favourably. If the complications and diseasea that follow a cause also act as canses of other new complications of a worse nature, the end of the vyadhi or disease process is death. The signs of such termination in most of the diseases have been observed and are always looked for, by the Ayurvedic physicians in the state of health and diseases or vikrit state of the doshas, dhatus, etc. So long as the prakriti-bal is more than the dosh-bal, the patient lives, and the vyadhi is laghu. The vyadhi is Gara where the prakriti and eatva-bal is less than the dosh and the signs indicating this state are known as signs of a grave nature.

The knowledge of these prakrityadi-bal called pravar, madhyam and avar (of. the high normal and low opsonic indices for an individual in reference to an infections disease), and the knowledge of the desh-bal or the viralence of the disease or extent of the disease process, were regarded as absolutely necessary for the therapentical parposes. This is an important proof of the rational and scientific character of the principles of the Ayarvedic diagnosis and is quite unlike the shot-gun prescriptions (depending apon incomplete diagnosis) of the modern dispensaries.

Now ojas of the body is the index of prakriti-bal (of. the complement or alexing of Erhlich's theory of immanity), a sabstance which is the basis of the hamoral theory of immunity and whose chemical character is not at all known or understood. The modern scientists recognize its presence by its activity. Ref. Green's Pathology ( 1920 edition, Theory of Immanity). The ojas is regarded to be param tej of all the dhaturs or tissues from rusa to the shokra. Its special storing place is the heart. (Note-This can explain the continuance of the beating of the heart of the cold-blooded animals even after its separation from the body, the cause of which is not at all understood by the modern scientists). The ojas keeps op the life process or is the canse of all mental and physical activities. Its kshays or deficiency leads to a group of symptoms described under oja-kshaya (cf. the so-called incomprehensible and vague disease 'Neurasthenia' of the modern medical men).

The amount and activity of the ojas varies with the quantities of the eight kinds of sar or the essences (of. the internal secretions) of the various dhatus already referred. In the dirgh-aya, the madhya-aya and alp-ayu individuals, the quantity of the ojas also exista or varies proportionately.

For general signs and features of Alp-bal, Madhya-bal and the B3lban individuals or types of men, the reader is requested to refer to references to Aya-pareeksha in Ayarveda (af. the scientific and perfect methods of Ayurveda and the modern methods still in a state of infancy. Ayurveda is, thus, leading other systems in this respect also).

## II. The Vyadel Pariksha.

It has already been stated before that the objeot of the examination of the patient or the investigation of the disease is primarily done for the estimation of the disease or vyadhi-bal or the extent or viralence of the disease process, to enable the physician to adapt his remedy or druga to the stage of the disease and the times.

The scientific nature of the methods used to investigate a disease are, in the case of soientifio men (who possess the true or right knowledge as foand in the lectures of the apta), two: (1) the pratyaksha or demonstrable and (2) the anuman or deductive and inductive.

The principles to examine a patient for purposes of diagnosis (vishesha jnan) is to discover or investigate the following about every rog or disease :-
(a) The kop or the prakop, same as doshakop or sannikrishta naidan, vat, pitta, or kapha kop.
(b) The yoni, same as viprakrishta nidan, asatmya-indriyarth, karma (pragnyaparadha) and kal (parinam).
(c) The atma, same as atma swarap or signs and symptoms indicative of vat, pitta, or kapha, rajas or thamas nature of the disease.
(d) The rog-atthan, or the onset of disease; it is included in samprapti, or the pathology of disease.
(e) The adhishthan; same as the site of the lesion (sharir or man, adhyaatmik, adhibhoutik and adhi-daivik):
( $f$ ) The vedana or complaint: vatik, paittik, or slaishmal vedana.
(g) The samsthan; it corresponds to the local lesion or sthansamshraya kal of the disease and all its signs and symptoms, or the rog margha-external, internal or middle.
(h) The shabda, sparsha, ete., or the state of the senses of the patient or the physical features of the sense organs.
(i) The upadravas, or complications arising in the course of the already present disease.
(j) The vridhi, sthan and kshaya or the three ways of rontes of the propagation of the doshas from their natural or physiological places within the body to other parts or organs of the body remote from their original places. This corresponds to the rog-avastha or various kriyakals or the various stages of the kupit doshas; and also to the sam or sthan (state of the normal condition of the doshas). The adhik, madhyam, or hin states or the excessive, normal, or - deficient states of the various doshas. This corresponds to the physiological and pathological condition of the various doshas, dhatus and malas in a particular disease or rog.
(k) The udarka or the termination or the fature of a disease or rog.
(l) The yoga or the hin, mithya and atiyoga of the rog and the samvega of the nidan or hetr.
(m) The nam (or the name) : the name of the disease or the nature of the disease primarily such as vataj, pittaj, kaphaj. (For the nomenolature of the diseases see Vyadhi). - Over one thousand diseases having different names have been described in various Ayorvedic works. (For a list of these see Sharangadhar Samhita).
( $n$ ) The pratikara pravitti or pratikara nivritti or the indications and contra-indications of the ease, or the upshaya or satmya and anapshaya or asatymya of a rog.

There are some other factors which also require to be mentioned as they refer to the vyadhi pariksha or the ayu-pariksha also, such as-
(a) Prakriti or swabhaba (atma).
(g) Bal-Prakriti-bal or dosha-bal.
(b) Vikriti or vyadhi or rog-nam.
(h) Ling or roop.
(c) Hetu or kop or yoni or nidan.
(d) Dooshya-Dhatus or malas.
(i) Sar-Dhatoo-sar or astwe-sar.
(e) Doshs-vat, pitta, or kapha, i.e.,
(j) Agni.
apti.
(k) Deha.
camprapti.
(l) Satmya or upshaya.
( $m$ ) Anuahadha.
Of these, (1) nidan or hetn, (2) poorvaroop, (3) roop or ling, (4) upashaya or satmya, (5) aamprapti are oalled collectively panchalakhan of nidan.

The following in only a very brief analysis of the principles of the vyadhi paritshe or nidan. It will show to the reader their rational, scientifio and comprehensive charmoter. They are quite enough for the diagnosis of a case from the Ayurvedic practitioner'm point of view. They are essentially different from the modern diagnosis. In Ayarreda the clnemificatione of diseases are based on the principles of diagnosis. This in a peculiarity of A yurveda. The rerions olassifications of vyadhi, though requiring a consideration at the end of the diagnoain, arn briefly noted down first to enable the reader to follow the prinoiples of nomenclature of the mont coientific character.

## Viadif.

(A) Synonyms of vyadhi : vikriti, vikar, rog, amaya, gad, atank, yakhma, jwar.
2. Vyadhi vikalp-
(a) Agneya or pittaj.
(b) Soumya or kaphaj.
(c) Vayabya or vataj.
(d) Rajas or tamas.
(3) Vyadhi bhed or its genersl groupo-
(a) Adhyatmik, adhi-bhantik and adhidaivik.
(b) Sharirik or mansik.
(c) Nij or agantuk.
(d) According to the nature of the heta, the vyadhi may be doahaj, karmajand eankar or mixed.
(e) Drishtapacharaj or acquired. Poorvaparadhaj or due to karmas of the past livea.
( $f$ ) Amashaya-samutths or paik wishaya-samuttha.
(g) According to the nature of heta again the mother or ovom or from the father or spermatozoon.
(1) and (2) Janmabal pravritta : Douhridapacharakrita or pregnancy disordere of the foetus. Rasakrita or errors of diet of the mother giving rise to disease in the foctus.
(3) Dosh-bal pravritta : as vataj, pittaj and kaphaj, rajasio and tamasio, amashayasamattha and pakwashaya samutta, shatirik and mansik.
(4) Sanghatbal pravitta or traumatio.
(5) Swabhavabal pravitta-
(i) Kalkrita (or periodical or time-conditioned): trishna, kahads, nidra, jara, mrityu,
eto.
(ii) Akal-krita or untimely.
(6) Daivabal pravritta-
(i) Pishachadi krita.
(ii) Sansargaja (contagion or infection).
(iii) Vidyudashanikrita or electric shock, eto.
(iv). Akasmiks or accidental.
(i) According to clinical appearance or roop-
(1) Mridu and daran, or
(2) Guru and lagha.
(j) According to its origin from the ashayas, vyadhi may be-
(i) Amashaya samuttha or originating in the stomach.
(ii) Pakwashaya samuttha or arising in the remaining part of the alimentary apparatus.
(k) Vyadhi kinds are numerous; but with reference to the discomfort it is only one.
(l) According to prabhava or effect or prognostic considerations, the vyadhi may bo-
(i)' Badhya or ourable.
(ii) Asadhya or incurable.
(a) Sadhya again may be sukhsadhya, easily corable, or
(b) Kashta sadhya or difficult of eure, or
(c) Asadhya, which may be anupakram asadhys or a hopeless case. Asadhya cases.
are also known as pratyakhayya.
(m) Vyadhi again may be-
(i) A apasargika or complicated.
(ii) Prak-kaival or birth-marks,
(iii) Anriya lakshan or those that may give rise to other diseases in fature.
(n) From therapeatical considerations it may be-
(i) Snehadi kriya sadhya, or
(ii) Shastriayadi kriya sadhya (see methods of Ayurvedic therapentics).
(o) Ägain it may be-
(i) Daivaiyapashraya, or
(ii) Yukti-ryapashraya : drabyabhoot bheshaj or adrabyabhoot-bhayshaj, i.e., with or withont the use of drugs.
(p) Pathological classification of vyadhi : doshaj, pittaj, kaphaj, rosaj, ruktaj, mameaj, medhaj, astthij, majjaj, shukraj, malashay rog named after the puriah, mootra, ete.
(B) Heta, or the cause of the disease-
(i) Bynonyms of heta are nidan, nimittá, ayatan, karta, karan, pratyaya, samatthan, nibandhan, mool.
(a) The sannikrishta nidan or the nearest cause, e.g., the kupitamalas or doshas or vikrit states of the vat, pitta and kapha.
(b) The vipra-krishta nidan or remote caases : ahit or asatmya saywan or irregular diet, and life.
(ii) Hetu vikalp, or the varieties and nature of hetu are-

Asatmya (hin-mithya or atiyog less than, reverse of, or more than what is aamyog or normal) of the following three groups of factors:-
(a) Artha.
(b) Karma or pragnyaparadha.
(c) Kal or parinam.

For the various factors that lead to the visham state of the doshas, the cansation of diseases according to Ayurveda, the discussion of the three doshas should be referred to. Roughly speaking, this stage is concomitant or concurrent with the chayakal or first stage of the disease.
C. Poorva roop, the preliminary signs and symptoms of the disease:-
(i) Its synonym is pragroop.
(ii) Its two parts or stages are (a) samanya Poorvaroop or the signs and symptoms of a general character, not characteristio of the special nature of the doshas (cf. the first stage or early part of the incubation period of an infection); (b) Vishaish poorvaroop or the apecial signs and symptoms characteristic of the special doshas, e.g., the jrimbha or sighing, the naytradaha or burning of the eyes and the mandagni or loss of appetite in the beginning of a ferer vase, are; as a rule; characteristic of the coming vataj, pittaj and kaphaj fever respectively (of. the latter part of the inoubation period of the same infection). In Ayurveda, it is possible to reoognize the disease even at this early stage.

This clinical stage.is conourrent with the prakopkal and prasarkal or the second and. the third kriyakals or pathological stages of the vyadhi.

Roop or the stage of the vyadhi when ite signs and symptoms are distinct enough to be reoognized without any difficalty (cf. the signs and symptoms of the modern scientists).
(D) Synonyms of roop are--ling, lakshan, akriti, chinha, sansthan, vyanjan.

All diseases can be recognized by means of the characteristic alterations in normal activities (and signs, special and general) or forms, and whether they are doshaj or agantuk and whether they are medical or surgical.

For lakshan or signs and symptoms of the vridhi and kshaya or vikrit state of the dhatus, the reader is requested to refer to any Ayurvedic work, e.g., Sushrat, for full disoussion. A brief reference is only possible in this place to show how the diseases can be investigated on the Ayurvedic prinoiples of lakshan. They are helpfal in finding the prakop (the pathologioal process of vishom state of the dhatus).

It is granted here that the physician knows the lakshun or signs of their karma (activities) or functions in health also.

For normal functional activities of the three doshas-refer to the discussion of vata, pitta, kapha-
(1) Karma of the avikrit vat, pitta and kapha.
(2) Karma or functions of the avikrit dhatus.
(3) Karma or fanctions of avikrita mal.

For signs of the vikrit or vishum states of the doshas, dhatus, malas-
(1) For signs of vridhi or excess of the: vridha doshas.
(2) Signs of the vridha dhatus.
(3). Signs of the vridha malas.

For sigus of kshaya or deficienoy of the dhatus-
(1) Kshaya of doshas.
(2) Kshaya of dhatus.
(3) Kahaya of malas.

Note--Compare the nigns of vat kabaya with those of ehock of the modern medioine, not thorougbly understood, and henoe mostly proving fatal.

As these doshas (yat, pit and kaphi) exist naturally in all the dhatus and the pores, epaces, passages of the body from the amallest to the biggest, they lead to the prakopa (vishom wtate) of the varions erota and the varions organs of the body lying along these arotas. The signs of their prakop are. distinotly recognizable by the change of their normal karmas or sotivitios. For these, the reader is referred to the various aigns met with in prakupita or pathological states:

Thas the roop or lakshan is an important aid in the nidan or diagnosis of diseases.
By the help of the arotas, dhatus, etc., and organe, the rog marga is also disoovered.
For the laghin and the guru pyadhi roop or olinioal phonemens or ordinary or seriouk: character in connezion with the Erimi (baoteria) commonly found in the various parts of the
homan body, the reader is referred to the texts to avoid lengthy dimomion. Numerona microspio becteria have been desoribed (a part of Ayarvedio bacteriology of great intrint to the modern bacteriologist).
E. Upahays-the factors or conditions favourable to the patient's health, i.e., the factors antagonistio to the hetu or canse of the disease, to the ryadhi and to all other efreote of the disease or viparitarthakari. In short, everything, whether drug, diet, sotivities (mental or physical), climate, seasons, etc., that is, satmya or congenial to the patient's health. This in also regarded as an important diagnostio feature in the reognition of the disense, breause the factors of the upshays or its opposite (unupahaya) trpe enable the physician to reongnize the trae nature or prakriti of the patient and that of the (i) eatmyic or aynergrtio and (ii) riprit or antagonistio factors as well. In this way the vat, pitta or kaph, or the nature of the disease is recognized. The other signs or roop already referred to enable the physician to determine the single, mixed, or sannipat character of the hetu or doshas.

For the aske of illustration, a few examples of upahaya of the three prakritie are mentioned below. They will be easily underatood by an analogy (used to the reasonable extent only) of comparing the doshas to the bacterial growths, and the body tisues to the oulture medis of the tabes in the inoubator. The growth of the doahas like the germs takes place and continuce only under favourable circomstances of environmenta, of temperature, eto., and the character of the collture media-
(a) The upshaya of vat-A fow examples are madhor or ewoet, lavan or aalt, amia or sour, singdha drabyas (as ghee or butter), or fatty cubatances, nidra or aleep, and santarpan, etc.
(b) The upshays of the pitto-A few example of this are tikta or bitter, awadu or wweet, shite or cooling, fans, foontains, bhagriha, milk, eto.
(c) The upshaya of kaph. Its example are tikta, kata, kohar, kashaya-drahya, *yayam, doomapan (smoking), fasting, walking, swimming exeroise, eto.
F. Samprati is the pathologioal prooess of a disease from the time of ita onset (asatmyasayvam or agantuk caaees) to the time of its fall development or termination. Thus sampraptí includes the well-known six stages of the rog (rog-avastha) or the six lriyakale. The samprapti involves the oonsideration of the whole of the disease, through all its etagee from beginning to end. This consists evidently of the life-pathologioal changea and not the postmortem (of. the imperfect state of the greater part of the modern pathology in the oases of most of the physical oonditions or diseases. The so-oslled fanotional dieordere are examples of doubtful nomenolature and of pathologioal diseases of nnknown structural ohanges-refer Green's Pathology, chapter I). The physioian of Ayurveda is in possession of the most acourate and perfect knowledge of the whole of the disease in all its stages-obaya, prakop, prasar, sansthan and vyadhidarshan, eto., i.e., Ayorveds explains to him what disease really is and aleo gaides the physician's rational tharapentical remedies or methods according to these atages of the disease or kriyakals. The periods or stages of the rationsl treatment alone are called kriyakals (see therapentics of Ayurveda). The reader is requested to note that these atages refer to the prakupit or pathological stage of the three doshas (vat, pitta and kaph).

Tote 1 -The scientifto wo-herence and the retional appliontion of the pacthologioal atages of diseace to therapeaties of Ayurveds-this enviable mata of perfeotion of Ayurvedio pathology has not, at yet, been attained or reeohed in any of the modern eyatome of medioine. This is another example of the rational, coientific and up-to-dete ofate or ohe reoter of Ayarveda.

The samprapti is regarded as the essential and the fifth important diagnostic feature and principle of Ayurvedic nidan, which is, therefore, not excelled by any other existing systems owing to the imperfect state of their pathologies; these latter are mostly the reanlts of either the post-mortem changes or groundless imaginstions.

2Foft 9.-The olesaifioation of the various ataqea of the discases as well as thoir nomenolatare in the Ayarvedie cystem are guided primaxily by eamprapti. This is another example of the onvisble eharnoter of the Ayarvedio principle; though not yet fully realised, yet it is being anoonscionaly approved and adepted by the anthorition of the modern sohool of Allopathy, (Befer any recent- edition of Pathology and Medioine). In this prinoiplo the Aywrvede atill leads others and will do so for an immense length of time in fatare; but the prentige of a ocmparatively ahort period only stepe in here; and the penedo-soientific arrogance prevente the adherents of the other vaeful (thoogh imperfeot and artifioial medical eyoteme to learn from hero. For an ilfurtration of the jathologion procee of , Ayarveds, see any dipesse in the Nidansthan of Charsk.
(a) The synonyms of samprapti are jati, agati, nirvritti, prapti.
(b) The varieties of amprapti : they are all very important sids in nidan or reoognition, more or less exaotly, of the various important features of the disease.
(i) Sankhys samprapti or pathological grouping. As an example, fevers on this -prinoiple are eight in number. (Refer Nidan of Ayurveda) Fevers may be of the following eight typea-vatjwar, pittajwar, kaphjwar, vatapittajwar, vatkaphjwar, kaphpittajwar and zanaipat or vatapittakaphjwar and agantakjwar.
(ii) Vikalp samprapti or the pathological and reciprocal relationahip of the three doshas. The determination of the fact, whether the changee taking place during diceace, as known by speoial activitien or signs, are due to the involvement of one or two ar all the thage
doshas. This is really the dosh kop or vishum states of the doshas. It refers to the adhik, madhyam and hin or the excessive, intermediate and defieient proportional relationship of the doshas.
(iii) Pradhanya samprapti or the recognition of the swatwantra and paratantra natore of the disease-primary or secondary.
(iv) Bal-samprapti or the nature and extent or virulence of the vyadhi or disease. The vyadhi according to this principle may be either (a) aabal or powerfal and nirbal or weak, This depends evidently on the stage of the diserse, the nature of the causes of prokop, the involvement of one or two or all the three doshas and the upadravas or the association of the complications of the disease also.
(v) Kal samprapti. The propagation of the disease from its onset to its termination in relation to time. This the probable time (day or season) of the origin or onset of the disease, and the probable duration of other signs and symptoms or stages of the disease or rog-avastha already referred to above.

The kal-samprapti or history (rog-avastha) of a knpit dosha or the pathologioal process ocourring daring the state of illness in natural sequence of order as regards the various stages of a kupit dosha is so important and interesting that it requires a brief review.

The whole rog-avastha is divided into the following six natural, well-recognized and distinat stages of the disease. They are easily distinguishable from each other by special diagnostic signs and features of abnormal activities or functions (physical or mental)-
(i) First stage of the disease or chayakal or the time of accumulation or slight increase of the dosha, either by natural seasonal variations or by asstmya sayvan. This cannot be recognized in its early part by the physician; but later on, the special signs of abnormal functional activities of the doshas can enable the physician to follow or trace a kupit doshe from beginning to end. This is the stage when the doshas of the body are undergoing a change from the sam or normal state to the vishum or pathological state-excess or deficiency. This stage is almost always overlooked both by the physician and the patient. This prepares the body soil or the tissues and renders them suitable for the production of the various diseases, whether the changes are due to the poisons produced in the amashya or in the pakwashay (i.e., to the ptomaines produced during digestion in the alimentary canal). The successful attack of the krimi or germs (for example)-whether naturally existing in the haman bodies or external poisons or infections-is only possible, when the soil is fit to let them grow. This stage of the disease is not clearly understood by the modern scientists or medical men at all. For.these reasons only, so many artificial means of prevention of the infections diseases are daily searched for. The world is full of germs or bacteria. It is a mistake to prepare for the fight with all the numerons pathogenic bacteria known to them. This stage as disoovered by the Ayurvedic Acharyas of the past still shows to the scientists of the other syetems a better; cheap (to soit all purses), soientifio, and general way of fighting or neutralising the effects of the pathogenic germs.

The prinoiple of this natural and Ayurvedic prophylaxis is to prevent the growth of the doshas and bacteria upon or within our bodies by the use of suitable antagonistics or unupshaya or unfavourable conditions of the doshas or bacteria, i.e., by the use of the satmya or upshaya of the patient's prakriti ; that is, the condition of the diet, climate, soil, or seasons suitable to the unusual or unnatural growth of the doshas and bacteria must be of the same prakriti as that of the patient in order that the abnormal growth may be possible $;$ and the conditions that are dissimilar or viprit in natural doshas or malas (morbid in charaoter) and the bacteria cannot become harmful or take root under unsuitable conditions.

The general principle or the law of Ayarveda that governs the principle of natural prophylaxis differing in different individuals is the same as will be discussed in therapeatios later on-

## "वृद्धिः समानैः सर्वेषां विपरीतैस्तु विपर्ययः ।"

(ii) Second stage or kopkal. In this stage the excessive growth or inorease of the doshas is more than normal and is in such quantity that the fanctional ohanges or activities can be recognized in this altered state.

The symptoms or signs produced are of special natare inoluded in the group known as vishaish poorvaroop. This part of the pathologioal process resembles the latter part of the inoubation period (in the oase of infeotions diseases in our bodies).

The modern soientists are unable to recognize the disease process at this early stage and do anything rationally for the good of the patient. Bat the Ayorvedic physician can treat the patient rationally and oheek the further progress of the disease even in this early stage.

Nature itself is constantly doing the same duty during the period of our health. This world is full of miorosoopic bacteria known not only to the moderns bat to the apta or the Ayurvedic authorities also as will be olear from Charak's Vimansthan (ohapter VII) or Atharva Veda.
(iii) Third stage or prasarkal. The stage of extension or spread of the outgrown doshas from their natural ashayas or storing places.in such guantities that more distinct signs of the abnormal aotivitios of the visham doshas and dhatris begin to make their appearance, that is the amashaya or pakwashays samutha disease-process originsting actually in the alimentar;
canal extends to other parta of the body. Under auch conditions, the human body is prodiepomed or lisble to diseasea of the sarne prakriti or nature which stimulate or exoite the farther growth of these doshas in their natural ashayas (to dieesees of the amashaya, e.g., vishuchike or cholers, and typhoid, that of the pakwashya).

The A yurveda alone throws light of a soientifio nature on thin atage of the diepme-proceme not at all underatood or known in the other syatems as yet. And that in the rowon why the onee of cholera, typhoid fever, dysentery, etc., so easily yield to Ayarvedio treatment. The peroentage of care in these cases is astonishing. (I had the ooossion to aee theve reaults when I worked atPresident of the All-India Ayurvedic Baywa-mamiti in the Kambh melas). The adoption of the Ayarvedic principles of therapeatios in cases of typhoid fevers (regarded as moot fatal amongat the Europeans in India) ean prove the truth of this treatment in only one year or one ceason.

The clinical phenomena of this atage also are inoluded in the group of aigne desoribed or fncloded in the roop of the disease.
(iv) Fourth stage or the sthansanshrayakal, or the stage when the local lessone of the disease-process have started inside the body in different plaoes. This is eacy to understand. The looal signs and general signs of a special kind enable the phyaician to reoognize the aite and the true nature of the disease. The elinical phenomena of this stage are inoluded in the group of eigns known as roop or ling of the vyadhi. Cholera is an example of the fourth atage of Ayarvedic pathology.

The Ayurveda excels all other systems in so far as it is able to deteot, locsate, and deworibe the actual life of pathologioal process so scientifically that it enables their adherenta and practitionere to know what the particular disease is,

This is another and the most important test of the rationality, coherence and eoientifio nature of the A gurvedio Nidan.

No therapentics can be called natural, rational or soientifio unless it is guided by both the natural or normal life activities (state of resiatance or vitality-see Ayppariksha) and by the tunatural or abnormal or Vishom life activities known as Vikar or disease or by the Balabal of patient or disease.

Most of the not-at-all-understood diseases of vague natore and names, of the other artificial or apeculated aystems of medicine, oan be recognized and rationally explained and treated on the principles of Ayurveda. A few examples of these are gout, rickets, rheumatism, deficienoy diseasee and the neurasthenic conditions-
(v) Fifth stage or fifth Kriyskal or Vyadhidarshankal-This is the atage when disease is fally developed and is distinct enough to be recognized by the apecial signs and aymptome produced by the disease process. Clinically, this stage is inoluded in Roop.
(vi) Sixth stage or sixth Kriyakal or Bhaidakal, or the stage when complications like fever, diarrhoea, dysentery, etc., have appeared and continued for sometime (Dirghakalin or ohronic) These cases mostly belong to the class of diseases curable with diffioulty or inourable altogether.

The other systems owing to their imperfect and artificial characters are yet unable to explain or understand the true and radical cure known in Ayurveda as Prakritisthapana (eee therapeutios) or the natural state of health that existed before the Chayakal, or first stage of the disease. They therefore, after relief of the patiente (-as is true of most cases, except malaria probably), regard the cases to be cured and let them go away, actually with the disease process in a latent atate, Which they cannot recognize ; because there is actually no scientifio means yet found by their founders or adherents which can enable them to recognize the true state of health called Prakriti or Dwasthasvastha. This however is well known to the Ayurvedic physician by the knowledge of certain health activities and signs mentioned below :-

## "समदोषः समाग्रिश्न समधतुमलक्रियः । <br> प्रन्नाहेन्द्द्रयमनाः सरश हल्यमिधीयते ॥"

And for this reason only, the number of chronic patients is increasing in the world and certainly in India every day. According to Ayprveda the true pathologist alone or one who anderstands the whole of the disease process as it occors in all the stages described above, can be called a true physician. He alone can render true, scientifio and rational aid to the patient suitable to the stage of the disease and the times or seasons.

No modern science can deny the trath of this statement.
Nomenclature of diseases-The various classifications of the Fyadhi already noted before: depend upon the various parts or organs of the body affected. Over a thousand and probably

- See Sharngadhara Samhita for about 1,000 mames of dineasee and also Sashrat, Uttara tantra. more diseases have been olassified and namod scoording to these principles. As the whole list cannot be given here, the marginal reference ${ }^{\circ}$ will do.

A few more general principles of Ayprvedic diagnosis reqnire to be mentioned. Sorre of these are common to both the Ayopariksha and Vyadhiperiksha as have been alresdy mentioned before. Only a brief reference will be made to these. They are helpfal in determining thepature of the patient, his disease and environment, as will be clear from the references masdes

Bofore: (1) Vaya, (2) Daihbal, (3) Satwabal, (4) Sarbal, (5) Prakriti or Swabhav; (6) Agni, (7). Koshtha, (8) Shabda, Sparaha, Roop, Rus, Gundha, eto., (9) Daish, (10) Ritu or Kal, (11) Batmya, (12) Vedana, (13) Dosha, (14) Prakop, (15) Yoni; (16) Átma, (17) Adhisthan, (18) Sansthan, (19) Vridhi, Sthan, Kshaya, (20) Udark, (21) Yoga, (22) Nam, (23) Aushadha or Pratikara Pravritti or Pratikara Nivritti.
(1) Vaya or age : as a rule in the young, the adult and the old, the kaph, the pitta, and the vat are naturally in excess. They are respectively according to their nataral prakriti predisposed to the kaph, the pitta and the vat vyadhi or disease.
(2) Daihbal or constitution of the patient : as a rale the sthool, krisha and madhya are respectively strong and average strength and of weak constitution, according to the state of their constitution (stout, thin, lean or an average constitution).
(3) Satwabal or manbal or the state of the mind to endure soffering or pain : safwavan patients endure all suffering quietly; the Rajoguni patients can be oheered up; but the tamasnatured patients cannot be quieted down in any way.
(4) Sarbal ruktasar, mansar, etc., have been already noted above in Ayquariksha. Tha patients are either Balvan, Madhyabal and Alpabal according to the amounts of sar existing within their bodies and tissues.
(5) Prakriti ; refer Ayupariksha for the various types of men according to their prakritis, e.g., vatal, pittal, slaishmal, eto.
(6) Agni or digestive power: it is of four kinds-Samagni, when the vat, pitta, and kaph are all in normal states; Visham agni or perverted appetite, tikshna or powerful digestion or 'aharp appetite, and mandagni or weak appetite or digestion are met with as a rale, in the abnormal state of the vat, pitta, and kaph respectively. The point impressed here is that the abnormal states of the agni predispose or precede the vataj, pittaj and kaphaj diseases. The agni is the fanctional activity of the pitta,
(7) Kostha or the abdomen : the vatal, pittal and slaishmal koshtha are respeotively kroor, mridu, and madhya-highly constipated state of bowels, normal state of bowels or loose state of the bowels.
(8) Shabda, sparaha, roop, etc., refer to the sigus of ill-omen or the Vikrit state of the functions of the sense organs, and a change in the phyaical features of the ear, nose, eyjes, eto., as determined by physical examination of the physician.
(9) Daish or country and body of the patient: the three kinds of oonntriea known as (1) Anapdaish or the country in which kaph and vat diseases are naturally more common; (2) jangal-daish or the country in which vat, pitta diseases are naturally more common; and (3) the Sadharandaish or the country where the vat, pitta and kaph malas are usually in the normap conditions or the country is S Sammalyukta country. The body of the patient is known as Aturdaish or Daiha-bhumi including its varions parts or regions such as the head and neok, the extremities, the abdomen and thorax, etc.; Daish-bhami or the structure of the earth of various countries act differently on the vat, pitta and kaph of the patients by variations arising in the stracture or oomposition of the vegetable, mineral products, etc., of those lands. Refer ta Drabyas in disenssion of vat, pitta and kaph.
(10) Kal or Ritu or the seasons, the age of the patients, the stages of the diseases or Rogavashtha; refer to Aypupariksha; the different stages of digestion and the different parts of the day and night; the atate of vat, pitta, and kaph both with regard to their quantities and fanctional activities, are naturally in excessive sitate in the latter part, the middle part and the first or early part of the Ayu or life, the day, the night (reverse ocours at night) and the digestive period. Similarly the vat, pitta and kaph are naturally increased in the Basantkal, Grishmakal and varshakal (winter, sommer'and rains) respeotively. Refer to the disoussion of vat, pitta and kaph for elaborate desoription.
(11) Satmya or anything that is wholesome to the patient's prakriti. Satmya means the same as Upshaya or prakriti-bhayshaj. It inoludes all hygienic or nataral remedies and diet such as Deish-satmya, Kal-satmya, Jati-satmya, Rita-satmya, Vyayam-satmya, Rog-satmya, Udak-satmya, Diva-swapna, Rus-satmya, etc., i.e., suitable or wholesome nature of the country, seasons, profession, exerciee, water, rest, or sleep doring the day, diet, eto., that are favourable to the patient.
(12) Vedana or the complaint, eto., as pain, tympanites, burning, eto.; these oomplaints, for example, in the oase of various kinds of disease may be vatik, paittik and shaishmik according to the nature of the vyadhi.
(13) Dosha or the rat, pitta and kaph whose visham or vikrit state alone is the eanse of all diseases. Refer to the disoussion of the Vat, Pitta and Kaph Siddhant.
(14) Prakop or the causes that lead to the Prakupit or abnormal state of the vat, pitta. and kaph. Refer to the disoussion of vat, pitta and kaph.
(15) Yoni, or the nature of the patient and the disease. Dhatu-vishamta is an example of the Yoni diseases. Bhudhasatwa, rajas and tamas, satwas are examples of the four kinds of Yoni The knowledge of these is quite neoessary in the treatment of the patients-the various Yonis (e.g. Brahmya, Mataya, Gandharva, eto., or Satvio, Tamasio, etc.).
(16) Dooshys or the various tiseses or Dhatoos auch es Ras, Rakte, Mras, Mode, oton, we also malas are trown as Dooshya, because they men be rendered Dashit by the vat, pitterenal kaph in Vikrit states.
(17) Atma or the nature of the dieease : thas vattaj, pittaj and kaphaj; Adhyatmik, Adhibhoutik or Adbidaivik.
(18) Adhisthan-Sharir or man, i.e., physioal or mental.
(19) Sanathan or the site of the lesion or disease in the rarioun Dhatoos, or Indrigani or organs and Malashayas. Refer to 8thansanshraya stage of the disease under Samprapti.
(20) Vridhi, sthan, kshaya; or the three ohief modes of extensions of the dieeave or the pathological prooess of the three doshas.
(21) Udark or the future or end of the divesse; aee the end of the different otagen of the diseage desaribed under Samprapti.
(22) (a) Yog or the four kinds of $\mathbf{Y}$ og in whioh the Kal, Artha, and Karms oan infuence the states of the three doahas or vat, pitte and kaph. The foar Yogas ars the 8amyak-yog, Hin-yog, Mithya-yog and Ati-yog. Refer the disoussion of vat, pitta, and kaph.
(b) Vyadhi-bal or viralence of disease.
(23) Nam or the name of the disease. In oases where the name of the diseane onnnot be ascertained, the disease is named after the nature of the doshas involved ; about one thonasnd diseases have been desoribed in Ayurveda. All oannot he mentioned there. (Rofer Chapter VII and Part I of the Sharangdhar Sanhita. Refer aloo Uttar Tantra of the Sushrat Banhita).
(24) Aushadha or Prathikara Pravritti and Pratikara Nivritti or the indioationa and the contra-indications of the diseases. That is what should be uned and what should be avoided in the treatment of a case.

This is known also as the Upshya Anupshaya of the patienta It is already explained.

## The Methods of the Aytbvedic Dhanoria

- There are three scientifio methods of diagnosing -
(1) The Apta
(2) The Anoman.
(3) The Pratyaksha

The first is meant for the new, disoiples of Ayarveda. The latter withoot the sid of Apta; san never make use of the signs and symptoms elicited by the aid of the other two methodr, pither for the determination of the rog or disease or selection of the proper Therapentios in the partionlar ease, according to the Ayorvedio principles of diagnoeie or Therapentios, It is important to note that the drugs of the known properties (e.g., purgatives of different kinds) cannot be demonstrated to be so useful on the prinoiples of other aystems as on the Ayrurvedio principles. An example of this will make the point olear. It has been explained onder Koshtha that the state of bowels is naturally of different kinds in the individuals of the various Prakritia. Every cose is not suitable for the use of oastor oil or epsom aalt. The anscientifio use of pargatives in different individuals of different natures in different stages of the diseases and in different seasons of the years is altogether irrational ; the caase and the effects produced are either ineffective or more or less than what are aimed at. The irregular nae of the porgatives by the patients themselves or their doctors, is the cause of many serions diseases of the abdominal organs, the longs, and the nervous system. Many ohronic diseases produced are kept up in this way.

Noot. -The knowledge of the effeotn of pargatives and that of the Koohthas is the poonliarity of Ayyrvods and is not
 this oonnoxion that the effieote of the three Doshat or the rat, pitte and kaph gride the nere of pargativem and otber
 to be borne in mind in the ase of pargativee prodtcod in lande of different geologiosl tormations and of diderent, stmo-
 upperianoe of oxperts or anthorities in their sabjeots. In the ame way, the provious know iloges of the prinoiple nnd

 interrogation) and the third or the Pratyakspas (or the phymical exruination by the phycioina himonil).

These methods, to all intents and purposes are, according to the principles of Ayurveda, quite enough for the practioal parposes of the Ayorvedio practitioners.

The prinoipal methods, used for the investigation and determination of the nature of tho disease are-
(i) The apta or the correct scientifio knowledge.
(ii) The anuman or the facte and signs and symptoms of diseases as elicited from the patients by means of the prashna or interrogation. That is the knowledge about the disease as inferred or ascertained by the dedvotive and inductive methods. This is liable to be erroneous in the case of the malingerers and those who are intoxicated or insane.
(iii) The pratyaksha or the facts or signs and aymptoms elicited or diecovered by the physioian's physical examinations of the patient's organs or parts of the body.

1. The value of this mode of examination evidently depends apon the kind of the apte or Jeotares of the experts that the physioian learnt from his garas and zpon the amount of the iknowledge of the same and his own experience.

The second and the third methods are recommended for the use of the Ayarvedic scientistie or practitioners.

It is impossible to deal with these methods in detail. And hence, I shall only refer to the various aspects of the methods and the signs and symptoms of the diseases and other factors in connexion with patient's disease, only very briefly. The main object of the whole is to ghow the urational and scientific character of the methods.

The various methods will be dealt with in the following order:-
I. The interrogation or prashna. .
II. The physical examination or darshan, sparshan, avhighat and saravan, and ohran. . ?
I. The Prashna-Interrogation or examination by means of question put to the patient for the investigation of the following points or factors for the determination of the nature .of the patient and his surroundings, etc. (a) Daish, (b) Kal, (c) Jati, (d) Satyma, (e) Atank Samatpatti or the canse of the onset or origin of disease, $(f)$ Vedana, $(g)$ Bal, $(h)$.Jatharagni or the state of digestion, ( $i$. Vat or the state of the adho vayu or winds, e g., absence or presence of the passage of winds from the colon and rectum or adho vayu prarritti or appravritti; e.g., in the - case of Baddha-gadodar or intestinal obstraction, there is absolute constipation or Appravritti $\boldsymbol{o f}$ the adho vayu or mal, ( $j$ ) the pravritti or appravritti of mootra ar urine, (k) pravritti or - appravititi of parisha or fæces, ( $\hat{l}$ state of the roj or menses, pravritti or appravritti of menses, e.g., in the Artar Nashta; or after menopause, there is total appravrittio or stoppage of the menses. In the same way, answers to the laading questions put to the patient by the , physician can help the physician in eliciting information about patient's other organs also and his environments and conditions, etc. A few more examples will make this clear. For example the state of the Man or the Satwa, Raj and Tama Ganas of the mind can be determined by - vigyan, Krodha, Shok, Dhairya, Maidha, ete. The conditions of the tissues by the state of Sarae and the age, the Batmya, etc., the obscure signs and symptoms of the disease can be determined by means of Upshaye and Anupshaya. The state of the doshas and the praman of the Aju can all be ascertained by means of prashna.

In short, according to Ayurveda, the physician evidently does not need the elabarata; - expensive laboratory methods for prognostio and diagnostic parposea. If the modern diagnostio methods be analysed and reviewed, one will have to confess that we are really not helped to the same extent in the treatment of diseases also. In the earlier or chronic cases, a true' Aypurvedio physician can always reoognize the diseases easily and always help his patient; becanse hia - diagnostio means are natural as well as scientific and his remedies are not necessarily those prepared or manufactured by expensive methods, bat all the most simple means, such as Chaista (or physioal and mental activities) or Karma, Indrayarth, and Kal, Daish, and other environmente of the patient all scientifically adapted to the nature of the patient:

In this respect, the Science of Ayurveda differs from all others, and ocoupies superior and unique position as regards its natural, easy and rational means of determining the true natore of the disease, which is not at all as yet anderstood thoroaghly by other systems.
II. The Pratyaksha (physical methods) are-
(1) Inspection or examination by eyes.
(2) Palpation by hands.
(3) Percoasion or Avighat Pariksha,
(4) Auscultation by ears.
(5) The examination of the Ruses by means of the lower animals.
(6) Examination by means of the nose of the various kinds of smells.
(7) By means of certain practical tests whioh are incladed in the above methods;
(a) The Nadi Pariksha or the palpation of the polse.
(b) The Jivha Pariksha or the examination of the tongue.
(c) The Naitra Pariksha or the examination of the eyes:
(d) The Shonit Pariksha or the test of the blood.
(e) Artava Pariksha or the test of the menstrual blood.
(f) The Shukra Pariksha or the examination of the Shokra ar semen.
(g) The Mootra Pariksha or the testing of urine.
(h) The Mal Pariksha or the examination of the mal or feees.
(i) The Vaman Pariksha or the testing of the vomit.
(j) The examination of the pus or puya.
(k) The examination of the other excretas, for example of the skin, ey.eq, nose,
ears, ete:
(l) The examination of the krimi or baoteria,
5. Most of these practical olinioal tests require the ose of one or more of the general physioal, methods as already mentioned above. They depend apon the observation of the signs of the: -vikrit or abnormal states of the three doshas-vat, pitta of kaph alone or on their dwandwaj, and sannipataj character. According to Ayurvedic principles ithere is really no necemity for the
more elaborate and expenaive laboratory methode of the modern dnya. Though theoe latter methods ensble the physician to learn more abont the non-ewential or aocesory factore or cigns of the disease they leave the physician quite in the dark, as to the exnot nature of the dimene inside the body, which alone oan be really beneficial from a therapeatical point of view. Thic important point is to be noted and borse in mind by all those sho are desious of not atraying emary from the natural, essential and right path in search of the arrificial acoescories to which there can be no limit. The latter kind of observation are mostly the realle of the glittering, up-to-date business-like fashions of the foreign countries.

The simple natural signs of the abnormal soctivities of the Vikrit atatee of the doshas onn be fairly, acourately and easily distingoiehed and can be interpreted to enable the phycician to know the Yoni and Atma of the doshas or the doshkop or the exact nature of the diemene and the probable course and termination of the disease. All these findinge, though oimpler to look at are useful in pointing out to the physician the therapentical indioations and contra-indioations of a case. Truly speaking, nothing more is desired from the scientifio point of view. All thees methods are simple, rational and nataral enough.

Only a few examples of each of the methods will be given to show the application of the obeervation made by those methods for therapeatical purposes in the treatment of the Vikrit doshas or other dhatus and organs. The Ayarvedio physicians, as has been already remarted interpreted the observations in the light of the Tridosha Hidhant of Nidan or the general law of the canasation of the diseases, according to Ayorveda; i.e., whether the disease in vataj, pittaj; kaphaj, dwandwaj, or sannipataj in character; whether these visham doebhas exist in their natural ashayas or places or have extended to the other dhatus and malas and organa of the body; and whether the diseases are sadhys or corable and asadhys or incorable; and so on-
(1) Examination or observations by darshan or eyes (inspection) the physioian ahould inspect all the signs or factors in or otteside the patient (as already shown in Ayuparikoba); e.g.r. unnataral or Vikrit Varna or colour of the akin, eyes, tongue, eto, the physioal featurea of the ear, nose, eyes, eto., in the state of disease ; sbnormal fonctional aotivities of the Vikrit Vayn, e.g., convalsions, eto., or special kind of attitude of the body ; colour of the malas such as urine,
 inadhya sharir; state of sharir as regards measurement, height, eto., oalled sharir praman indioative of the varions Prakrits, Saras, Jatis, Nations, Yoni, etc.; and everything elae that would help the physician in the determination of the general state of the patient or the natural resistance of the patient.
(2) (a) By sparsha or the nae of hands or palpation or the ase of the pressure or touch sense. See A yopariksha for the Vikrit state of the sparah senge of the patient. The abnormal state of Shita, Ushna, Blakibhna, Karkasha, Mridutwa, Kathin, Showtha can be determined by the hands of the physician. Liver and spleen can also be palpated for noting the enlargement.
(b) By abhighat or percusaion. It is used by the nee of hands is a apeoial way. It is need to examine Udar Adhman and Jalodar or Ascites and Tympanitig.
(3) Examination by ears or ascultation used for noting sach things as Antra-Koojan Sandhisphotan, rattling of the throat on account of kaph, etc., and anything else that can be disoovered by means of the ears and is helpful to the physician in the diagnosis of the disease.
(4) Examination by means of taste organ of the lower animals auch as the sugar test iourine, pitta in blood, etco., by means of the lower animals or insects.
(5) By means of smell of the excretions or malas such as urine, pas, eto., most of the Gundha of the malas are of the Vikrit nature. Certain special testa noted above aro-
(a) The Nadi Pariksha or the feeling of the pulse: As already noted, the simple natural' eigns of the abnormal activities of the Vikrit states of the doshas can be fairly, accorately and easily disting oished and interpreted by the physician for the determination of the exact nature of the disease. But the diagnosis of the diseases by means of the palse is not so easy and requires. great skill and experience before it can be of any real value to the physician. The part of Ayorveda is so important that it has been described as a separate science and is oalled Nadi Vigyan. It was mostly tanght by the specialists of the subject (the Guras) to their disciplen. Men of some experience alone could understand the various factors in regard to the polse, whichwill be only very briefly referred to here. This is the reason why the subject of polse is not inoluded in all the books generally. Sharangdhar, which is a sort of imdex and aids to the Ayurvedic system as a whole, does describe it. It is older than Baghbhatta. The varions otheranthore of the subject can be oounted such as Ravan, Nagarajan, Bhav Prakash, etc. Among the most ancient experts, personages like a 8hiva, Kanad and many others can be mentioned. These have made this subject or art easy enough for their disciples.

The palpation of the polse, though only one of the above five pratyaksha or physical methods, has been desaribed as a spẹcial method-
(i) Object of the palpation or feeling of the pulse for prognosis and diagnosis. In both the Dhamni Sphoron or pulaation was made the object of study or observation. The Bam or Visham states of the three doshas, namely, vat, pitta and kaph were primarily looked for and variations in their natural character noted.
(ii) Mothod of feeling the polse : the patient as a role is to sit in front of the physician or remain lying in bed. The pulse seleoted for obsorvation is the Prakoshthaga Nadi or the radial palse. It is regarded to be the Jivashakshi Nadi or the standard of the approximate life activity. It is to be remembered that the heart according to Ayurveda is the Chaitanya Sthan or the principal plaoe of the Jiva; and hence the pulae gives information about the state of the Jiva or heart and other doshas. The next rule is to begin with, and examine the right or the left pulse according as the patient is a male or female. This custom, at present, has degenerated and is like the sign used as a prefix to all presoriptions of the modern seientists. Originally this method was based upon the knowledge and position of the Koorma Chakra, one of the plexuses of probably the sympathetic or antonomic system of the modern physiologists, who really know rery little about the syatem at present. The Ayurvedio authorities describe its two different positions in the male and female which gives rise to the two different methods of examining the: radisd pulse.

The various characters of the pulse in health and disease commanicate to the fingers of the experienced physician the signs of health or disease in the same way as the wires of a violin communicate the different notes to the musical player's hands and ears. The trath of this statement can be imagined by men of some experience alone. The difficulty of the method in acknowledged even by the foreign anthorities of this art.

To feel the palse, the physioian sitting in front of the patient supports the elbow of the patient with his left hand and places the three fingers of the right hand on the radial pulas olosely together a finger's breadth away from the base of the thumb. As a role the index finger is placed next the thamb, the middle finger between index and ring fingers, which is placed next to the elbow-joint, or away from thomb. The ring finger is called Anamika. Vory often three parts of the pulse have been described after the names of these fingers and it is therefore necessary to remember their pames and the places examined by them.

The three parts of the Nadi or Dhamni Sphuran or pulsation are desoribed as the Vat Nadi, Pitta Nadi and the Kaph Nadi. (Cf. the three parts of a normal Sphygmographic tracings)-
(i) the upstroke, (ii) the notch or the tidal wave and (iii) the downstroke) -

The point worthy of note in Ayourveds is the recognition of the three parts and many other important characters in ancient time and their use for the objects stated above, when no modern instruments existed. Many Ayurvedio physicians' hands are better than the instroments of the above nature needed for determining the palse waves and pulse pressures, beoause they ean, in addition to these, describe the exact nature of the disease and signs and symptoms of the dieesees oorrect to an astonishing degree; which is impossible by any instruments. These signs and symptoms or characters of the pulse depended apon the variations of the vat, pitta, and kaph or the three doshas.

The healthy palse is called sams nadi and the unhealthy pulse is called visham nadi.

* The different methods of ferling the pulse are-
(i) Sparsha (or touch);
(ii) Piran (or pressing);
(iii) Aghata ; and
(iv) Mardan (or rolling beneath the fingers).

[^1]This part of Ayurvedic Pariksha is really very important and cannot be dealt with in detail. It superaedes all other systems. Its use and practice are so diffioult that it cannot be appreciated by men of average intellect or common experience. It requires special training and repeated practice before it can be of any value even to the Ayprvedic physioian.

The diffionlty and importance of this art as noted above are recognised also by the greatest foreign authority. (Refer Study of the pulse by Maokenzie.)
"With oareful tuition, the trained finger can undonbtedly become a most sensitive instrument. By constant praotice and atudy, eaoh physician makes for himself a handard of arterial pressure, which he recognizes as normal."

The reacon why vat stands fint, pitte recond, the kapha last on the pale wave, oan be onderstood by those who anderstand the process of Ayorredic Embryology or development of Nadi and Brotas, and also the physioal properties of the Panchabhatatmik Drabyaa.

Uses of the Nadi; asdhys and asadhya charactere of the pulce depending upon the involvement of one, two or all of the three doshas, and also on the other charaoters or variationa of the normal palse depending apon the state of the doahas, dhatoce and malas.
(b) The Jivha Pariksha or the examination of the tongue: The various physioal charactere of the tongue which enable the physician distinguish the vat, pitta or kaph lop are ita colour, its appearance as dried, cracked, etc., and 00 on.
(c) The Naitra Pariksha or the examination of the eyes and the examination of the toeth and lips also: The colour, the character of the discharges, photophobis (ite presence or abeenoe), the signs of daha or inflammation, etc., and other unnatural phyaical states of the eyeomach as conken statea of the eyes, staring and equinted looks, eto., ensble physioian to reoognise vath pitta and kapha diseases and also their curable or incurable nature of the dinease.
(d) The Shonit Pariksha: The various characters of the pure and normal blood and the Dushit for abnormal blood described in the books enable the physioian to diagnoee the blood diseases and differentiate the Jivashonit and the Rukta-Pitta, i.e., whether the blood appeare with vomit or is taken from the veins. The vataj, pittaj, and kaphaj diseasen give rise to different physical characters which enable the physician to recognize them. The curable and inourable natore of the diseases is also known by their help.
(e) Artava Pariksha or menstrual blood: Shudha Artava or Dushit Artava (normal and abnormal) were recognized by means of certain physical and ohemioal charsoters. Theee help the physician to understand the nature of the Doshas at fault.
( $f$ ) Shakra Pariksha or the examination of the seminal discharge: The physical and the ohemical characters of the various kinds of Shakra (normal or disessed states) such as Bhodhe Shukra or Dushit Shakra enable the physician to recognize the doshas in a Vikrit atate and aloo understand the sadhys or asadhya nature of the condition.
(g) Matra Pariksha or the testing of urine: The varions physioal and chemical characters of the normal urine of men or women (married or anmarried) refer to the reaction of the orine and specific gravity (as Laghn and Gara) and colour, consistency, taste or presence of other abnormal sabstances as blood (fat, bone-marrow, etc). The variations in the normal conditions and characters of orine enable the physician to diagnose the doshas in diseases and discover other abnormal substanoes excreted along with the urine and originating in the various parts of the body, and also understand the curable and incurable nature of the various diseases.

Nagarajon's test for urine: This test is a very famous one disoovered by Sidha Nagarajum for the determination of the prognosis of diseases in general, by means of the teat of urina conducted in a special way with the help of an oil drop which acts as urinometer primarily. The other characters such as the spreading of the oil drop on the surface of the orine are asid to indicate also the curability or incurability of the disease.

A few examples of urinary disorders of which the physical characters are deseribed in the texts are given below as special names have been given to those conditions like those of the modern scientific men.

Examples of Pramaiha are-
(i) Udakmeha (Cf. Polyuria).
(ii) Kandaikshurasmeha (Cf. Glycosuria).
(iii) Sandrameha (Cf. Albuminoria).
(iv) Sandraprasadmeha.
(v) Suklameha (Cf. Chyluria).
(vi) Shukrameha (Cf. Spermatorrhoea).
(vii) Ksharmeha ( Cf excessive acidity of urine).
(viii) Kalmeha (Cf: Met-hæmoglobinuria).
(ix) Neelmeha (Cf. Hæmaturia).
(x) Ruktamehs (Cf. Hæmaglobinuria).
(xi) Manjishtameha (Cf. Hæmohoporphyrinuria).
(xii) Majjameha (Cf. Marrow in the urine).
(xiii) Vasameha or fat in the trine.
(xiv) Madhumeha(Cf. Diabetes mellitas).
(Iv) Sikatameha or gravels in urine.
(xvi) Alalmeha (Cf. Mucus in urine).

Fixamples of other diseases that can be diagnosed by examination of urine are such as :vasti kundal, ushna vat, vir-vighat, mootra kricha, etc.
(h) Mal Pariksha or the examination of the faces: Diseases like Amatisar, Vatatisar, Pittatisar, Kaphatisar, Raktatisar, etc., and other similar disesses also can be diagnosed by the physical characters altered according to the doshas at farlt.
(i) Vaman Pariksha or examinstion of the omited matter, for the diagnonis of the raxtapitte or diseases of the Amashaya.
( $)$ Sravapariksha or the examination of discharges from uloers, etor, of the various dhatoos and organs of the body, could be recognized and can be used to diagnose the sites of the diseases.
(k) Examination of the malas of other organs or parts--as Swed, Netramal, Karnamal, etc.
(l) The examination of the krimi: Various kinds of krimi or bacteria giving rise to diseases in men and naturally found either in the external parts of the body or inside the bod $y_{\text {, }}$, e.g., in purisha or in the malashaya; slaishama or kapha or in the kaphashaya. The krimi of yakshama or consumption is an example of the slaishmaj krimi. The krimi of Kushta or leprosy is an example of the rukta of blood group of krimi. Similar examples of various other krimis too amall to be visible to the naked eye have been described and their various names and physical characters, etc., have been described.

Nors.-It is not quite olear from the text where these varions miorosoopio krimis have been described, how these were discovered and stadied. The scienoe of yog alone can explain thit method of stady as will be apparent from the reference.

1. Investigation of Epidemics and Adoption of General-Prophylactic Measures and Remedies.The nature and causation of epidemics and pandemics were fully understood and recognized by the Ayrurvedio physician of anoient days. They attributed these to adharma or evil karmas which lead to the vitiation of the atmosphere, water, kal, and other general conditions of the different countries in which they happen to occur. The reader anxious to know about the measures or means suggested to be adopted during such periods can refer to the text books.

The Principles and Methods of Ayurvedic Treatment.-Only a brief review of these is possible in this place. It will show the scientific, rational and natoral character of the therapentical principles and methods of Ayrurveda.

Before reviewing the principles themselves, it is necessary to know a little about the Ayurvedic treatment itself, its aims and essential adjunets.

The Ayurvedio therapeutios is the Prakriti Sthapana or the restoration of the natural or Avikrit state of the doshas, dhatus (tissues) and malas or natural exoreta.

1. Its natural divisions are two: Ojaskar or the treatment to maintain health of the healthy persons. It is Rasayan or Vajikaran.

## 2. Rognashak for the treatment of the diseases.

The Chatushpada or the four essentials of Ayurvedic therapeutics are-
(1) A noble learned, practical, dexterous, and a certificated physician who understands all about the canses, signs, symptoms and the rationale of treatment, and can do surgical work as well.
(2) A faithful patient who carries out the instructions of the physioian.
(3) The tested and effective remedies of drags pure and unadulterated.
(4) An obedient and intelligent attendant.

The practical divisions of therapentics according to indications are three: (1) The Daiva path or the divine method or path based upon the prinoiple of karma and is usually employed: in karmaj diseases. It includes treatment conducted by means of mantras or prayers, tirthagaman or pilgrimage, oharity, penance, fasting, eto., (2) yoktipath or the rational method or path based upon the principle of reason or rationality, where the relation of cause to the effect, or disease and the treatment can be established and explained. This is the common and general line of treatment that is adopted and recommended by most of the Ayorvedic aathorities, as will be evident from the following discussion of the methods and the principles. This is based upon the law of the three doshas or tridosha sidhanta of vat, pitta and kaph, which has been proved to cause all pathological disorders and give rise to physical phenomena or clinical aymptoms and which explains the rationale of all the therapeutical drags, diet; special measures of pancha karma, general measures whether medical or surgioal, the use of a particular climate country and any other thing that can be used as a remedy. Apparently, there could be no more rational procedure or principle of treatment than the above, as it includes both medioal and surgioal measures, provided they are saited or congenial to the patient and indicated by his disease and nature or prakriti. This prideiple was pat into use for the porification of the ovarian and testioular excretions or secretions in the would-be parents, and was also used -during pregnancy to produce a ohild of good and healthy prakriti.

This sort of treatment was thas commenced and used even in the state of health of the arents to produce an indirect effect upon the prakriti of the offapring.

It was used during pregnanoy. to prevent the onset of most of the congenitical defeote. Ac.orwards suitable diet and environments were used to maintain the state of health till death.
3. Satwayajaya or the avoidance of all anupashaya or harmfal drabyas by control of the manas.

The Principles of Ayurvedic Treatment. -They will be disouased belon verv.briafiv.

The general law or prinoiple tranalated in English mould be comewhat as follown :-
(1) $\Delta l l$ dhatua are increased by similars (or Synergetics) and deoremend by the revervo (or Antagonista). The original text is an follows:-
"वृद्धिः समानेः सर्वेषो विपरीवस्तु विपर्ययै: ।"
(2) The rational treatment or Yukti-Yukta prinoiple of treatment is the ope of the ramedy contrary to the oause, or contrary to the Vyadhi (disease or the actual pathologion proormene) of oontrary to both. In short upahaya, contrary of anopashaya, is the rational remedy.

The original text is this :-

To onsble the reader to understand the above principles a brief oomment is neoresary.
The disease in A yurveda as explained before is only the abnormal conditione of quality and quantity of the doshas of the body, dhatus of the body, and malas.

The disease is only a state of excesa or deficiency of the Doshas or Dhatue or Malae slready discussed before. If in health those Drabyas which are known to produce an incroase in the Doshas are taken in larger quantities, the Doshas increase in quantitiea and their functimas are also increased; if; on the other hand, suoh Drabyas which lead to their reductions after digestion are taken, a state of deficiency occurs in time. If the subetancen which leave more of waste matter or Kitta of the food are taken an increase in the quantities of the natural pxorpta also occurs.

The Drabyas of the Apatarapana olass lead to the decrease of the body; and those of the Santarapana class lead to the increase of weight of the body.

These Drabyas when used by the mouth produce different effects by means of-
(1) their Rusas,
(2) by the various Viryas or active principles,
(3) the different qualities or properties of their Vipaka or the digested subetances after absorption, and
(4) by their special properties or Prabhava.

Although it is unnecessary to repeat what has been already discussed before, I do so to make it easier for the reader to puderstand the discussion without referring to the subjeot in other places.

The various classes of the Drabyas used as drugs on the above principles of Rus, Virya, etc., are-
(1) Shatravarg : Some of thase groups are known to increase and aome to deorease the quantities of Vat, Pitta, and Kaph. If, in treatment of disease due to exoessive statea of the certain Doshas in persons of the same Prakritis, that group or groups of sabstances are employed which in health are known to stimulate the productions of those Doshas or Dhatus, then a further increase is sure to follow according to first principle of the therapeatics stated above. If, on the other hand, the Drabyas of those classes are ased which lead to deficiency of the esme Doshas, then their use in disease of the excessive states of the Doshas will lead to the reduction of their quantities, and consequently of their actions in diseased states. This effeot is in mocordance with the second part of the first law or principle and in acoordance with the second principle. A few examples of the Viryas of the drags used in the treatment of diseases are mentioned here to explain the general law of therapeutics. Thus, in diseases arising from the effects of Shit-Virya of a Drabya, the use of a Drabya of a similar property. will lead to the inorease of the diseased state by producing a greater action or effect; the use of the UshnaVirya drag, on the other hand, will produce a contrary effeot by reducing the Doshae. Examples of such drags of opposite properties are Rukshs and Snighdha.

Examples of Prabhav are very commonly seen in the case of the groups of poisonoun drags. This knowledge is otilized according to the above principle in certain diseases $m$ the following manner, in the treatment of cases of insanity prodnced by strong wines, the wines in weaker doses where the effects of the Rus, Virya and Vipaka of the wines is not made use of or neglected by the diluted or weaker doses, a contrary effect or Prabhav is prodoced by the special toxic effect or Prabhav of the drug ; this contrary effect of Prabhav is the Viparitarth-sari effect of the same active or toxic drag.

Examples of the Drabyas producing alterations in the quantities of the Dhatus can be observed in the case of the Santarpan and Aptarpan class of Drabyas; thos, the use of milk which contains fat will lead to the increase of the fatty-tisesue of the body. The stoppage of all fats from our food will lead to a reduction of the above tissue.

All these Drabyas onder their abnormal conditions of Hin-Yog, Mithya-Yog or Ayog and Ati- $\mathbf{Y}_{0}$, as has been already explained onder Aetiology, give rise to various diseasea. The drogs also can be used in the above three ways according as the effect or action of the drag is. deaired in a particular case.

By the way, it would not be out of place to mention that the principle of the Homeopathy is the Viparitarthkari principle of the above law, and the mode of administration of the drug ia according to the principle of Hin-Yog whioh is the opposite of the Ati-Yog of the same drug. This is said to be useful in the case of poisonons drags (Charak).

In the use of drugs or diet, the physicians must remember the effects of the vaxious kinds of Virodhi Drabyas or incompatibles, as these are likely to produce injurious or undesirable effecta. According to the above principle, the knowledge of the Drabyas of opposite kinds of actions, of their different Rusas, of opposite kinds of Viryas or Vipakas and Prabhavas, is absolutely necessary to avoid undesirable results by the irregular use of the drugs regardless of such effects. on persons of various Prakritis.

A few more principles of general use are given below to show the rational and scientific. oharaster of the principles of Ayurveda.

As they are of practical importance in connexion with the special medical measures or methods, the practitioners of Ayurvada bear them constantly in mind while treating a ease. They particularly refer to the indications and contra-indications of a orse, the proper time for the use of a drug or a method, the preliminaries or preparation of the patient for a particular Karma or method of the Tarpan or Ap-tarpan class, or the Shastrakriya or any of the therapeatical measures whether medicinal, dietetic, or hygienic, or climatic or seasonal, and any other remedy that may be employed as such.

1. All therapeutics shoold be employed according to the stages of the diseases or KiryaKals. Five Kirya-kals indicating the use of a special Karma or method are known.
2. All therapeutiosl measures are to be used only in those cases where they are indicated and not employed in the cases where they are not indicated. Indications and contra-indications. of each Karma or method must be remembered by the pratitioner.
3. All rightly applied measures produce distinct signs and symptoms of success of the measures. The signs of each Karma are to be remembered. The Samyak or Samyog of a Karma are to be remembered.
4. All therapentioal measures can be wrongly or improperly applied in only three possible ways:

Hinayog, Atiyog and Mithyayog (less than proper, reverse of proper, more than proper).
Diseases or complications are produoed by erroneous applications of the methods and can be recognized by distinct signs and systems produoed in the patients.

5, All patients restored to the Prakritistha state must bo advised to remember their Hits. and Ahita or Upashay and Un-Upshay, at the time of disoharge from the Panoha-Karma Grihs and Knti (Ayurvedic Hospital and Sanatorium).
6. In all cases during the case-taking, the following important points are gone through in each case for selection of the proper remedies to suit a case :-
(i). Ayn-Pariksha (prognostic consideration).
(ii) Vyadhi Pariksha (diagnostio considerations).

In case the patient has Ayus, the following further points are considered : -
(a) Vyadhi Vikalp (Vataj, Pittaj or Kaphaj).
(b) Hetu-Vikalp (Hin, Mithya, and Ati-Yog of Indriyarth; Karma and Kal).
(c) Purrroop (Bamanya or Vishaish).
(d) Rup.
(e) Upshaya and Un-Upshaya or Satmya and Asatmya.
(f) Samprapti.
(1) Vikalp Samprapti (Adhik, Madhyam or Hin).
(2) Pradhan-Samprapti (primary or secondary).
(3) Bal-Samprapti (Sabal or Nirbal).
(4) Kal-Samprapti.
(5) Adhishtan (Sharirik or physical, or Mansik or mental).
(g) Agni (Sum-agni, Vishom-agni, Mand-agni, Tikshna-Agni).
(h) Deha (Badharan, Durbal, Sthool).
(i) Koshtha (Mridu, Madhya or Kroor).
(j) Kal (five krya-kals) and Ritu, etc.
(k) Kays (young, adolt or old).
(l) And other points about the Vyadhi or disease and other important points about the patient's Prakriti, suitable medicines etc.
7. All Asadhya (or incurable) but Yapya eases are to be treated on the principles of Pathya-pathya.
8. A Bhishak (Physician) is one who onderstands the six Snehadi Kriyas ;
9. All drugs properly used are useful and wrongly used can do harm.
10. The infants should be treated oarefally; the physician's chief guides are Poorvaroop, Ling, Upahayan Desh, Kal, otc. ; only aweet, mild, palatable and light drugs are used.
11. The diseases produced by Krimi (bsoteria) are to be cond noted on thees prinoiples -
(i) Apakarshan or removal of the Krimi.
(ii) The prevention of the canse or Nidan-varjan. In all theme coses corrfal treatment is required as the symptoma generally are comparatively more serions than tha Dushit or Morbid ctate of the Dhatus.
12. The relapses of the $V$ yadhi is more common after the Sumshaman Karm than after the Shamshodhan karm.
13. In all cases where Panch Karm fail to relieve or oure and dieenee recurs, the 8iddhaYog are to be employed.
14. The Yukti or rationale of the Ayorvedic therapeutios involves the comparative oonciderations of the nature and stages of the disease, and the action of the Drabyae with reference to their Kas-Viryavi-Pak, etc., and Desh and Kal.
15. The Upashaya is the state of health maintained by Abar-Vihar oontrary to oauce of disease, contrary to disesse and Vipritarth-kari.
16. The Ahar (diet) that keep up the sum-dhatoos of the body in a otate of Prakriti and render the Visham ones Sam is Hit-kari or usefal and the opposite of such Ahar in Ahit or harmful.
17. The treatment of the actually dying persons is not recomenended.
18. In Mansik diseases, the intelligent physician should nee all that is Hit and avoid Ahit of the patiente.
19. All discases of unknown origin or name should be treated acoording to the Doshas involved.
20. The disease is not curable always by treatment by Pathya only (i.e. Upashay) without the use of other methods described in tert-books.
21. Diseases produced by errors of diet are curable by the use of proper Pathys.

There are numerous minor bat equally important principles of general use like the above ones, but they need not be described here, as the few described above are enough to thow the amount of care taken by the Ayurvedic physicians in the treatment of cases and also to show the rationality of the principles.

Although the following remarks are not directly conneoted with the above disoussion, they ara simply made here to show the comprehensiveness of the Ayurvedic therapeutioal prinoiplem and methods and also to show the value of their soientific and rational nature :-
(1) The principles and methods of the new art af healing by Lonis Kuhne are olsimed to be the rational and comprehensive system of treatment. He believen in the disense-mattar (of. Doshas) to be the causes of the disease. His treatment for the removal of the disease-matter consists in the use of (a) various kinds of baths (cf. Bahir-parimarjan, (b) Enematas (Vnatikarma), (c) special diet (cf. Pathya or Batmya-arth)

The Sitz bath (cf. Drava-Swada) is believed by the followers of the above system and was claimed by the author himself to be the cure of every disease.
(2) The principles and methods of Homeopathy are olaimed by Hahnemann, the author, to be the only rational and perfect and scientific system of the healing art. Diseasea of man are according to him solely spirit-like (dynamic) derangements of the spirit-like power (the vital force) that animates the haman body (cf. the Satwa, the Chetan Dhatu or spirit-like force of the Jiva which is Anu-Sangyak or atomic). The pathogenetic power or the effects of drogs in eltaring and deranging (dynamically) the health is called the medicinal disease. This power (cf. Prabhava and Atiyog of the Drabyas) of drags is believed to be capable of removing the natural disease by similarity (simila similibus); he administered it to the patient in aimple form, and in rarified and minute doses believed to extinguish the natural disease. The "pernicious routine" of the old school of Allopathy (in the opinion of the anthor of Homeopathy) regarded as totally inadmissible in the honourable science of homeopathy is unfortunstely, according to the Ayurvedic system, only the Vipritharth-kari principle and part of the general law No. 2, and the Viprit (opposite) treated by Viprit according to the general law No. 1, but the Hinyog of the active or poisonous Ati-yog of the same drags (cf the medicinal diseases of Hahnemann who states in his Organon of Medicine, English translation by Dudgeon, Edition 1906, that the high and only mission of the physician to be the restoration of the eick to health (cf. Prakritisthapana) and virtually translates most of the Sutra Sthana of Ayurvedic system and other principles explained in Ayurveda, bat does not recognize that aystem which he made use of by explaining to his adherente the principle of the Hin-yog and the Prabhava of drugs.
i (3) The principles of old Allopathy was the contrars contraria (cf. Viprit Chikitsa) which not Ayorvedic in any way) based upon the principles of palliation and aypmomatic treatmont both of which are scientifically irrational. The modern echool is in a state of trangitional stage of progress without any general therapentical principles for its guidance on rational lines. It is still basy in experimenting and collecting facts to approach the threshold of rationality which will evade them so long as they are not in possession of the two important factors of the therapentics, nan ely what life is and what disease is. True life metabolinn-and true lifo-
pathological process are not known as yet. The life at present is regarded in a chemioal sense. The biologists cannot understand or explain why the heart of a oold-blooded animal continues to beat even after its separation from the rest of the body (a living laboratory, whioh supplied that heart with the necessary ohemicals of the same nature, acoording to the modern soientists, as it did to the rest of the body). Refer to Ayurveda, which believes heart to be place of Cheytan Dhatu or Jiva and also believes that the heart is supplied by the best part of our digested food or rus. The reoognition in some places of the fact that most of our diseases are produced by errors of our food and begin in the abdomen is in favour of the Doshaj Sidhant or law of Ayurveda. The growing use of Organotherapy and an attempt to find relationship between the internal secretions and the so-oalled vitamines met within vegetables is also in favour of Ayurveda. The use of vegetables regarded mostly as indigestable substances do raise the blood: pressure after digestion and is like the adrenalin ohloride, in action.
(4) Fasting cure (of. Ayurvedic Upvas).
(5) Chromopathy (cf. Shit-Ushna Virya |Rus) through the influence of the varying sun's raye.
(6) Countmattei's different electricities known as white, red, green, eto. (of. the production of the various Rusas by the effeot of the sun's rays of different seasons). (For his electro-homoepathy of. Hin Yog and Prabhava of the drags).
(7) Respiratory exeroises (cf. Pranayam).
(8) Physioal exeroises (of. the Hat-yog Asanas or exercises used for the development of the physical body not for worldly object alone but for Yogio purposes also).

The methods of Ayurvedic treatment.-The three general methods are-
(1) The Deva patha. It has been already referred to. It includes treatment by Mantras, etc., and the Bhoot Chikitsa and treatment by suggestions of the modern scientists and the Hypnotic treatment also.
(2) The Yukti Path or Yukti-V yapashraya. This method is the common method of treatment of the Ayurvedic Physioians of the type desoribed above. All the methods that will be referred briefly below are included in this class of treatment. This method is based apon the thorough knowledge of the disease and the drugs and methods of treatment. This sort of knowledge is made use of by the physicians only when the reasons for the treatment are olear. Therefore the process of therapentics based upon the correct knowledge of Heta (Aetiology) of Vyadhi, correct of knowledge of Vyadhi (the Vikrit or Vishum state of the Doshas, Dhatus, etc., in all the stages) and the correct knowledge of Aushadha (the diet, the drage, the hygenies, the influence of climate, seasons, day and night, the proper applioations of the method and the: principles of treatment, is rational Yukti-Yukta path or method.
(3) Satwavajaya, the avoidance of harmfal Dravyes by controlling the Manas.

The chief varieties of the Yukti-Yukta methods are-
(1). Antah-Parimarjan, the removal of the Doshas by the use of remedies which act when given internally, that is, the treatment by internal use of drags.
(2) Bahir-parimarjan, the elimination of the Doshas by the use of external applications of drugs or other measures.
(3) Shastra-pranidhan or surgical treatment, that is, the removal of the Shalya, whether natual or Sharirak or Agantuk or foreign, by means of instraments (hands inoluded), blant or .harp.

The therapeutical methods can be grouped under the heads mentioned below :-

1. Snehan.
2. Swedan.
3. Rookshan.
4. Langhan.
5. Stambhan.

The three sets of Karinas or methods consist of two opposite methods in action and are therefore available for treatment according to the general law.

The Sneahadi Kriyas or methods of Ayurveda.
As it is impossible to describe them in detail, I would unly review the important ones to show the practical applioation of the general law stated above. These methods or Kriyas were -adopted to the needs of the patient. These Karmas are mostly parely medioal, being oonducted by means of drugs or speoial measures with out the help of intruments used in the other variety of the Karmas known as Shastra Karma.
'These medical methods or Kryas are-
(1) The Bringhan.
(2) The Langhan.

The Langhan means the use of the drugs or measures that produce a feeling of lightness or Laghavata in the body, or anything that reduces the body weight and produces a gay feeling.

The Bringhan means anything that produces a feeling of heaviness of the body and increase weight.

The two measares are contrary to emoh nther and thus are arailable for use moconding to the general law of therapentice.

The two other mothods, prectioally the same as Bringhan and Langhan in principle and practioe bat desoribed in book aeparately are-
(1) The Sentarpan.
(2) The Aptarpan.

They are contrary to each other abo and are applied in practice acoording to the general laws. The disease produced by the Bantarpan Drabyas are curable by Aptarpan Karmae whioh will be referred to later on.

The second group, consisting of two contrary measures, are-
(3) The Rookshan.
(4) The Snehan.

The third group of two other and contrary methods are-
(5) The Swedan.
(6) The Stambhan.

They are used in praotice in accordance with the general law. For full information, the terst books should be consulted.

Group B.-The Samshaman and Sanshodhan kriyas or karmas-
(a) Sanshaman karmas are-
(1) Pachan.
(5) Vyayama or exercise.
(2) Dipan.
(6) Atup.
(3) Kahuda-nigrah or Upvas.
(7) Vayu.
(4) Trishne-nighrah or Pipase nigrah.

In these methods, the natural exoretory cirgans or passages for the elimination of the Doehea were not acted upon by. the drugs or measures. The proper indiontions and the contra-indicetions.of each of these methods cannot be dealt with here.
(1) The shumshodhan karmas or kriyas are-
(1) Vaman.
(2) Vireychan.
(3) Nasya.
(4) Niruha or Vaeti.
(5) Rukt-muti.

In these methods the Dushita Doshas and malas were eliminated through the natural exoretory organs by drugs. They are as a rule preceded by the Sneahadi kriyas. In the modern days most of these karmas were not used by the Ayurvedio practitioners commonly. It has rather become absolete. In the ancient days this treatment was usually conducted in epecially construptad houses or Griba, which resemble on a modest scale a hospital of the modern times. The Drabyas of the Sneahadi class and Sunshodanadi class have been referred to in the disonssion of the Drabyas.

For the varioties of the Swedan; Vireshan, Vasti and Nasya see the following pages.
The Sanshodhan karmas were used to eliminate the malas through the exoretory organs by drugs or measures. The object of the preliminary nse of the Bnehan and Bwedan kriyas is to loosen, liquify and facilitate the passage of the malas easily. It is impossible to refer to the special principles used in the application of the various varieties of these methods in the indicated oases. Illustrations will be given in the following pages to show the use of the methods in general.

For varieties (sabdivisions) of the Samshodan Kriya-colleotively called Pancha Karmasee the following -

The Sunshodhan Kriyas, comprised of five special methods for eliminating the body Doshas are also known as Panchkarmas. They are-
(1) Vaman (Emesis or vomitting).
(2) Virechan as by purgatives, diuretics, etc.
(3) Nasya (snoffis).
(4) Niruha or Vasti (Douching).
(5) Rukt-srati or Mokshan (Venesection).

Of these Vaman is also called Urdhwa-Karma: Vireohan and Vasti are often called Adhahshodhan Karmas. The Panch-karmas belong to the method known as Antah-Parimarjan or cleansing of the inside of the body; the Bahir Parimarjan, opposite of the Antah-Parimarjan, includes the 8wedan karmas.
... Several kinds of the above methods have been described in the books. Some of these are montioned for illustration and reference.

Examples of Swedan karmas (methods of perspiration with or without the application of heat are-

1. Tap-swed.
2. Ushma-swed.
3. Hastisundika-swed:
4. Upnaha-8wed.
5. Dravadi-swed.
6. Nadi-swed.
7. Sankar-swed.
8. Prastar-swed.
9. Avagah-swed.

Jaintak-sweda.
Kuti-sweda
Bhu-sweda.
Koop-sweda:
Kumbha-sweda.
Holak-sweda, eto.

The main objeot of the various Swedan methods is the aot of hydration or liquifying the Doshas and by the continuance of the canses leading to the passage of Sweda containing the Doshas easily out of the the excretory passage of the akin.

I have often tried in my practice in several cases several of these measures described under Swedan-karma and have found them to be very useful in cases of nearalgic pains, stiff joints, stiff tendons or contractures, torticollis, eto.

Examples of various kinds of Vasti-
(1) Reotal Vasti or Enema (Anuvasan and Asthapan).
(a) Dosha-har Vasti.
(b) Bhaman Vasti.
(c) Lakhan Vasti.
(d) Madhatailak Vasti:
(e) Kaf Vasti and varions other kinds.
(2) Uttar Vasti-Urethral and Vagainal Douohe.
(3) Netra Vasti or eye-douche.
(4) Shiro-Vasti or special kind of leather oap to fit on to the patient's head.
(5) Phal-barti or suppository was used for introduction into the anus.

Examples of the varieties of Nasya-karma-
(1) Ava-Piran Nasya (juices of plants snoffed up the nose).
(2) Pradhaman Nasya (snuffis in powder form).
(3) Marsha Nasya (oils or oily preparations used as smuffe).

The objects of the Panch-karmas-
(1) The Prakriti-sthapana is the chief aim.
(2) To inorease or make op the loss of the Doshas in a state of deflciency.
(3) To reduce the quantities of the Kapit Doshas which are in a state of exoess.
(4) To bring down or restore the Kapit Doshas to their normal states.
(5). To preserve the Sam state of those Dhatus which are in a normal state.

Of these five Karmas, Vaman and Virechan are the chief ones.
As a rule, for the treatment of the patients suffering from diseases which cannot be cured by other methods, the Pancha Karmas were indioated. These were to be used only in the properly selected cases and according to the indicated methods. Where they are ased as means of restoring the debilitated persons or in special diseases of the bonea, and in a systematic way, they were preceded by the Sneyhan and Bwedan Karmas.

As it is impossible to describe these methods in detail, persons interested in further inquiry can refer to the Charaka Siddhi-sthan, ohapter 1, sholkas 24 to 28.

As a rale, the after-Pancha-karma rules were to be öbserved for at least double the time that was required during the conduction of the Karmas.

The various drugs of different properties used in these methods are too many to be referred to in this place. The properties of drags, however, require a mention. The descriptions of the drags classified and described on the principles of Rusas (Shat-varg) are very much like the desoriptions of the drugs desoribed by the Homeopathics. In addition to these actions, the uses of these drugs in the various kinds of the Doshaj diseases are of greater importance. Thas the diseases produoed by the Ati-Yog of one class can be treated by the Hin-Yog of the same class of drugs or by another class producing the opposite kinds of effects upon the Dhatus of the body.

To illustrate by an example of one of the Karmas (Vaman Karma) the amount of care that was taken in the use of methods of the Pancha Karma class, may be judged from the following - hart :-
(1) Vaman Kal (proper season and hour of the day for the conduction of this method).
(2) Vaman Yogya Rogi (used only in cases where it was indicated),
(3) Vaman-ayogya Rogi (oontra-indication of emesis or Vaman).
(4) Dosh-anusar Chikitas (treatment according to the Doshas or Vat, Pitta.and Kaph).
(5) Vaman-aushadha (emetio drugs).
(6) Vaman-matra (degrees, doses, etc., of emesis Hin, Madhyam, Uttam).
(7) Vaman-vidhi or process of the use of emetios.
(8) Signs of Samyak-vant (signs and eymptoms of successful emesis).
(9) Pathye of Samyak-vant (proper Ahar-Vihar or Upahaya in sucoemfully treated oams).
(10) Kapathys of Śamyak-vant (druge or measures anfavoarable in eacocomful osecos).
(11) Dashts or Atyanta-rant (signs and aymptoms of exocemive romiting).
(12) Vaman-upadrav (complicatione of $\nabla_{\text {aman }} \mathrm{Karma}_{\text {a }}$ ).
(13) The Adhogat Vyapada of Vaman Karma (i.e., paesing of the matter to be romited out into the lower part of intestines-a complioation or bad result).
(14) Treatment of the complications or diseases due to exoensive vomiting.
(15) The methods that are to be used before and after romiting.

Examples showing the efficacy of this Karma in patients treated by me are oaves of acthmatio fits in the adults and first stages of cholera where it proved quickly effeotive.

As examples of the application of the general prinoiplee of Therapentioe of Ayurvede the Iollowing may be quoted :-
(a) Doshaj diseases-
(1) In a vatal Prakrit patient, the following are indicated:-

Sneban and Swedan Karma, and Snigdha, Ushna, Madhur, Amla, Lavan-Yukta-Ahar and Anghadha.
"Fats, hot or atimulants, aweet, acid, sour and salt food and medieinea."
(2) In Pittal Prakriti patiente, the use of ghee, madhar (or owoet), tikta (or bitter), zashaya (or astringent), shital or cooling drags and lood, Harmya-nivas.
(3) Shlaishmal Prakriti patiente-Teekohna, Ushna, Sanshodhan or Vaman ; drage and diet of Rooksha, Katu and Tikta olasses.
(b) In the diseases of the Dhatus (Rusa, Raktadi) or tissues of the body, differont karmae and suitable olasees of drags and Ahar Vihar are to be used. Take an example of the direaces of the Rusaj variety-
(1) In Ruasj diseases, Langhan or Aptarpan Karmas and Drabyas are indioated.

Varions kinds of drags and methods according to proper indication can be used in diseaces of the remaining Dhatus aloo, such as
(2) Raktaj or blood diseases.
(3) Manaaj or mosoular diseases.
(4) Medaj diseases or diseases of the fatty tissue.
(5) Asthij or bone diseases,
and so on.
(c) In'the same way diseases of the Vega-varodha olass, suitable measares or food and $^{\text {and }}$ drugs are indicated. Examples of the Vega-varodha olasees may be mentioned here, an they are not yet recognized as an important groap of diseases by the other medioal syatems. If any evidence is required, let the persons who suspeot the trath try the canses of these diseaces on his owa body.

Diseases arising from-
(1) Retention of prine.
(2) Retention of feces.
(3) Retention of eractations.
(4) Stoppage of the act of sighing.
(5) Prolonged oontrol and stoppage of thirst, hanger, sleep (i.e. allowing no drinks, no food and no rest).
(6) Stopping the natural movements of the body, etc.

So far, we bave dealt with the medical method of treatment all included briefly under the Snehadi Kriyas of the Tarpan or Aptarpan class. The Tarpan Karmas are Bnehan, 8tambhan, Bringhan ; the Aptarpan class inoludes Rookshan, 8wedan and all Langhan Karmac of the Samshaman and Samshodhan classes.
III. Shastra Karma (methods of surgery) is the third main method of treatment of the Yukti-path or rational nature. They are oontrolled by methods given below :-
(1) Chedan.
(7) Prachanna.
(2) Byedan.
(8) Seevan.
(3) Byadan.
(9) Ishan.
(4) Daran.
(10) Kshar.
(5) Lekhan.
(11) Jalouka, ete.

It is impossible to deal in detail Shalya-Shastra or surgery with reference to the prineiplee and methods of Shastradi Chikitas or treatment. However, to ehow that Ayorvedic methods of treatment are based upon some principles, and are scientific and rational in character, a brief reference is made in the following lines:-

The origin of the name Shalaya-Shastra is based upon Shalya which implies 'motion' (foreign).

Shalaya or foreign matter may therefore be regarded as the cause of surgioal disescos. 8alhya is either (1) Sharirik-Shalya or (2) Agantuk 8halya.

Sharirik Shalya. Its examples are--Hair, nail, eto, Dhatoo, Unnammal, Dushta Dosha.

Agantuk Shalya, which eause pain in the body in a way contrary to that of the Sharirya Shalya.

Shalya Gati or movement of Shalya (1) Urdhwa or upward (2) Adhah or downward (3) Arwvachin, (4) Tiryak, (5) Rija.

Signs and symtoms of Shalya for diagnosis-
(I) Samanya or general.
(2) Visheshik or special.

Sites or looation of Shalya (for diagnosis) and indioations of treatment.
Skin, muscular tissue, veins or other blood vessela, bones, joints and body aavity.
Nature of Shalya-(1) Avavadha and anvadhe general treatmentiof Shalya:-The three vhief parts of Shastrakarm are-
(1) Purvkaram or preparatory method.
(2) Pradhankaram or prinoipal method or treatment.
(3) Pashohatikaram or after-sorgical procedure.

Shalya Haran or removal of the foreign body. The methods of doing it are two-
(1) Pratiloma of removal of shalya by the same route by which it entered the body. It was used for Arvachin Bhalya or superficial Shalya.
(2) Anuloma or its removal by another passage. It was used for Prachin or deep-seated Shalya or substance that caused local or general pain.

Pradhan Karma have already been stated on the last page under Shastra-karam.
Removal of the. Shalya of the Avadha kind was done by various other methods such as: (1) Swahhav, (2) Paohan, (3) Bhedan, (4) Daran, (5) Piran, (6) Pramarjan, (7) Nirdhampan, (8) Virechan, (9) Prakshalan, (10) Achooshan, (11) Vaman, (12) Pratimareh, (13) Pravahan, (14) Ayaskant, eto.

General anæsthesia in the removal of Shalya was nsed by, the Ayurvedic surgeons in the past. Dead foetus, whioh is an example of Shalya, was removed from the womb after giving the woman certain medioines which rendered her anconsoious and not feel the pain. .

For various diseases and methods of treatment see text books.

## (7)

## PANDIT TRIAMBAK SASTRI VAIDYA, BĖNARES.

1. (a) Our theory of disease is based on three humours of the body त्रिदोष (वात, पित, rand कफ). The harmonions working of these three humours means health and vice versa.

This theory is disturbed by (1) time and its variations, (2) irregular activities of the senses and (3) the physioal organs. Generally speaking, anything beyond the established habit distarbs this harmony, whidh means disease.

Owing to the innumerable variations of these three दोष and their partioular spots in the body the number of diseases is also unlimited.
(a) As to the test of the modern soientific critioism, I myself am not in a position to answer the questions, not having studied the modern saience. But I am so convinoed, of the truth of this theory that I, without immodesty, may say I am prepared to meet any adverse oritioism.
(b) A physician had to find out (1) the causes of the diseases (हेतुनिदान), (2) symptoms prior to the disease (in the inoipient stage) पर्वरूप, (3) symptoms of the disesse रुप and (4) aggravations ànd ameliorations (उपराय and संभाषि).

First he must remove the oauses and, taking into consideration the totality of the other four, he ahould deoide the exaot variation in the त्रिदोष denoted by the symptoms. Having done this, it will be easy for him to presoribe for his patient (I need not say that our materia medios is also based on this त्रिदोष theory).
(c) I am an old praotitioner of this place. I have not kept any record of my patiente, but I may aay that many patiente, particularly sufferers of ohronio diarrhces, dropsy, asthma, dyspepsia, eto, who had tried the allopathio system without suocess wers oured by ma.

On this point my anggestion is this. There should be a hospital having two different wards, one allopathio and the other Ayorvedio. Sufferers from various diseases should be treated in them and the physioian of the one should watoh the cases of the other. This will afford a good opportunity for the comparisons and perhaps the world will be gainer from thin.
Q. 8. There is an Ayurvedic diepensary and sohool at Beanares and is ander my aupervision. This was eatablished only last year and hence I am unable to put forward my opinion beed oo the data gathered in the same.

Generally speaking, there are at present no A yurvedio public hospitals or diapencaries in this coantry. I think there is a great need of this. There are only privnte praotitioners. Eduostional institutions are practioally non-existent. Students learn from private practitionere. I think there is a great drawback. Good educational institutions with hospitals attached shoud be established. There should be particular faoility for teaching botany, biology and nantomy. The modern Ayorvedic practitioner has little direct tnowledge of the varions herbe and plante desoriled in our books. If this want he removed, our aystem and hamanity will be greatly benefited.

The aseful points in both the systems should be atilized by both the Allopathic and Ayurvedio practitioners without regard to the systems. Modern Phyaica, Chemistry, etc., abould be the next stage of study after the thorough completion of the text books of Ayurvedio system.

By registration of indigenous praotitioners, society and soience no doubt will be greatly benefited. But this will not be possible antil faoility is provided for the proper education and examination of the student.

## Delhi.

(8)

## HARIRANJAN MAJUMDER, M.A., BHIBHAGACHARYA, DELHI.

Q. 1. I propose to deal with the Ayurvedic (ancient Hindu) system of medicine.
Q. 2. (a) The haman system is an epitome of the whole universe. As the whole univeree is regulated by the equilibrium of wind, heat and cold, and disturbed by the losa of that equilibriam, so the human system remains all right so long there is equilibrium of the three hamours, viz., Vayu, Pittam and Kapha of the system (Vayu representing wind, pittam representing heat and kapha representing cold of the universe) and becomes subject to diseases whenever there is disturbance in the equilibriam of those humoars. According to our aystem when the maltifarions external causes coming in contact with one, two or all the thres internal canses (i.e., the hamours vaya, pittam and kapha) exoite one, two or all of them, they pervading the system pollute one or more of the Sapta Dhatus (viz., lymph ohyle, blood, flesh, fat, bone, marrow and semen) in a particular way to cause a partioular disease. To olear it up I wish to put an example. If excessive exposure to hest of the sun (whioh is an external cause) coming in contact with the internal cause pittam excites it, then it pervaring the syatem pollutes lymph ohyle (one of the Bapta Dhatus) in a particular way to canse bilious fever. Similarly, two or three homours together may be excited and may cause several other diseases. Bacteria or germ, which are the aauses of the diseases acoording to the Weatern theory, can be put under the category of our external canses. As for example, the malarial germs entering our system excite some of the internal canses (i.e., humours) which in turn oause , the malarial fever. Hence the direot and the immediate canse of the diseases are the exoited homours and not the germs. By nature all these humours remain together in a subtle form pervading the whole system. There are certain partioular qualities of every one of thene :homours. If any external cainse, possessing one or more of these qualities, comes in contact with the human system, the humour, possessing those similar qualities, is excited and the disease is cansed. As, for example, the sun is hot. If a man exposes himself to the excessive heat of the sun, then the particular homour, i.e., Pittam, possessing the same quality heat, is excited and the disease is cansed.
(b) The principles and methods of diagnosis.-There are five different ways of diagnosis. '(1) If a patient suffers from Pandu-roga (i.e., bloodlessness) the physician should ask bim whether he was in the habit of eating soil. If the answer is in the affirmative, there remains no doubt for a physician to diagnose the case to be one of Anæmia. Hence the cause gives the clue to the diagnosis. (2) Before the diseases are fally developed, indications of certain preisymptoms occur to differentiate a particular disease from others. They may be translated as pre-symptoms. Whenever any difficulty arises to distinguish between two different diseaces possessing similar symptoms, we are to consider the pre-symptoms of those diseases which generally differ. Hence in these cases pre-symptoms give the clue to the disease. (3) Every disease has got its partionlar symptoms. When they occur, we diagnose it to be that partioular disease. (4) When certain symptoms of a disease remain obscure, the difficulty arises as which of the two diseases the patient has been suffering from. In that case the physician considering it to be a particular disease shonld administer a particular antidote to that disease. If that gives relief, then the physician is regarded to have diagnosed the disease. If that aggravates the symptoms then the disease surely becomes the other one of the disputed two. (5) The last way of diagnosis is to see how a particular humour has been excited, what Dhatu has been polluted and in what way both the humoars and the Dhatu have been mixed up. For, the peculiar and particolar mixing up of the exciting homours and the polluted Dhatus gives riee to a partionlar disease. This may be called the Etiology of the disease.

The principles and methods of treatment.-There are certain diseases which can be removed on administration of antidotes (in the shape of food, medicine or conduct) which are contrary in - haracter to the exeiting canses (i.e.; hamours). Here if the canse is removed, the effect (io:,
disease) is gone. (2) There are some which can be removed on administration of specifie antidotes (in the shape of food, medicine or conduot) whioh are eontrary in character to the digeases; Herein we are not to consider which of the hamours has been excited.. (3): There are others which can be removed on administration of antidotes (in the shape of food, medicine or conduct) which are contrary in character to both the canses (i.e., excited hamoor) and the disease itself. Herein selection of the antidote depends on the consideration of both the canse and the disease. ( 4,5 and 6). There are other three forms of treatment wherein the antidotes (in the shape of food, medieine or conduct) are similar in oharacter to (1) the canses, (2) diseases, and (3) both the canse and the diseases, bat act in an opposite manner. If I have to dilate on this topic by means of examples I shall have to write many pages. So I give here only the prinoiples and methods of diagnosis and treatment.
(c) As to the general efficacy of the treatment there cannot be any dissentient voice. Daring my experience in treatment about 12 years, I have tried several diseases with anccess. Even in the case of Malaria, I have been successful with our medioines. I have got no bias for any system. Every system is good in its own way. Efficacy and superiority should be found out in the physicians and not in any partioular aystem.
Q. 3. (a) I have been working as a House Physician (Ayurvedio department) in the hospital connected with the Ayurvedic and Unani Tibbia College, Delhi.
(b) I am not well-informed of other institutions of Indis. But our institation was started not with the orthodox idea of sticking only to the indigenous systems, bat also with the objeot of engrafting and assimilating what is good in the Western sciences. It is still in its infancy. No doubt it will require sometime to bring into operation all the details of the aims and objects of our institution. Bat it promises to fulfil our hopes in the near fature. (1) Althoogh medical relief given at present is not adequate, still as soon as all the sides of our institation will come into working order, there will be adequacy of medical relief, and (2) as soon as the above conditions will be satisfied, the said institution will be suitable as a centre of medical edreation.
(c) I think there does not exist at present sufficient provision for medical relief and medical education on indigenous lines. To meet the ends the following are essential in my opinion. (1) Establishment of pharmacies for the preparation of standardised medieines, (2) establishment of a network of hospitals for the treatment of in-door and out-door patienta, (3) bringing up of a set of well-trained vaidyas to serve in the aforesaid hospitals, (4) seeuring of the copies of all the texts which were taken away to the countries like England, Germany, Tibet and other places and a thorough search of others from all the available sources of India, (5) proper diagnosis and ase of all the medicinal plants, minerals and metals and other materials, (6) re-writing of our original texts (which are generally in concise form) in full details in order to give vivid ides of all the principles to the students, (7) delivering of learned lectures in spite of only going through the texts, (8) Carriculam of stadies should be divided not by books but by the subjects. To meet this object preparation of books on respective sabjects are essential, and (9) amalgamation of what are good and useful in the Western medical science.
Q. 4. (a) I fally share the view that the essentials of medical training are three pat in this question. Had the energies of our mach respected founder of our institution (viz,, Hakim Ajmal Khan Sahib) not been diverted to other activities of public life, it woold have attained the ideal (indicated in this question) by this time. However, we hope to attain our objects in the near fature.
(b) No donbt the above ideal is too high for want of fonds and real and able workers. Substitation of any other ideal will only jeopordize the spirit of the original ideal described herein. If your Committee are really in favour of doing justioe to the indigenons systems, they phould not even think of any intermediate ideal in order to start with.
Q. 5. I cannot fally agree with the views of the Calontta University Commission. I carnot even think of rejeeting any theory or theories-which have been doing immense good to the suffering humanity-merely on the ground that they do not stand the test of the existing goienoe. Whan they are bestowing visible boons, they should be regarded as traths. It will be the duty of the scientists to investigate and to bring those traths to modern light. We should not raise our enraged hammer for the purpose of effacing them from the faoe of this earth. Human knowledge and human reasoning are limited. So We oannot boast of knowing every troth pervading the whale natore. If in any day materialism of the West merge into the spiritualism of the East, then the distinction between Indian and Western aystems of medioine will disappear. No doubt development of modern Western soience will help as a good deal, bat we will never think of beooming perfect so long as we shall not oultivate the culture of spiritualism in xs .
Q. 6. I fally agree with the view that the ourrioulam of stadies of indigenons medioines phould include a study of modern soientific methods in all its branches. For they will help us to ponderstand the traths laid down in our system to a considerable extent.
(a) There should be two courses of stadies; viz:-
(1) Higher and (2) Lower,
(1) In the Higher oourse elaborate knowledge of Physios, Chemistry, Biology, Anatomy,
Phyeiology, Pathology, Baeteriology'and Surgery will bo essential side by side with the elaborate
knowledge of the Vedic ayatom of diagnoaia and treatment. The atodenty, soquiring the full knowledge of the subjects indioated above, will be regarded as graduates fully qualifiod to manage hospitale of the town.
(2) In the Lower course an elementary knowledge of the aforesaid coioncen and an elaborate knowledge of the Vedic aystem of diagnotia and treatment are oevontial. The atudentas possessing these qualifioations, will be Lioentiate Vaidyas fully qualified to take oharge af dispensaries of the rural areas. The graduate in onder to become mantere ahould submit thecia on new matters, and the masters, in order to beoome doctors, ahould submit theais of a apeaial character to the Board of Studies selected for the parpose.
(b) For the Lower standard a student should have qualifioations equivalent to the prowent Matrioulation examination and for the Higher standard he should have qualifioatione equiralent to the present I. 8 o . standard.
(c) The Western scientific books should be taught in English, 80 long ne the Enithful translations of those books are not available. The Vedio matters should be taught through the mediam of the vernaoular of every province for the present.
Q. 7. The question of medical registration can only then come in when we will have sufficient number of passed vaids in our standard of examination.
(a) Competent practitioners can be admitted into the medical register on recommendation from an independent Registration Board.
(b) I am not fully acquainted with the existing legislation on medical registration.
Q. 8. The comparative cost of treatment according to Vedio syotem will be mibstantially lean than that required according to the Allopathic system. Orr Vedio medicines are cheap. Only the Tantric medicines are costly. The combination of both the Vedic and Tantric medioines ara essential for the treatment of patients in a vedio way. Even in that oase the oost becomes comparatively less. All the plants, minerals, salts and other ingrediente are available in oar own land and the cost of preparing compounds does not become very great.
Q. 9. (a) With the advent of foreign ralers oor system lost reoognition from the State. (b). Old practitioners of the Ayurvedio system and not the original exponents, were very selfish not to record the fruits of their experienoe and resalts of their saocesgful experimente. But it is a matter of glory for the Ayurvedic system that it has aurvived all the destructive causes and ham yet been able to show its merits to the world. The system may be revived to ita original lustre, (1) by recognition from the State, (2) by active searching out all the lost books and manasoripta, (3) by establishments of colleges, hospitals and laboratoriss for experimentations and investigations, (4) by preparation of books in scientific ways, (5) by original researohes.
Q. 10. (a) The State should give the initiative by starting a model college and a model echool in the metropolis of every province.
(b) The local boards may establish medical schools in every district to turn out vaidyas for rural areas.
(c) The Universities shonld play their parts in the same ways as they have been doing at present with regard to the medical colleges and schools.
(d) If the Government reoognition is obtained, the private agencies will surely atart independent colleges and schools with the growing necessities of the people.

I should apologise for sending these replies after a long time. The works in my hospital as well as some home affairs pressed me so hard that I could not make time to prepare those replies at an earlier date. Whatever I have done at present I have done very harriedly. May I, therefore, ask yoe to exouse me for the delay I have made. There will no doabt be many defects and shortcomings in these replies. But I have got so much consolation in my heart, that these are being sent to liberal personages who are generally inclined to overlook defecta and to accept reasonable matters if there be any.

## (9)

## (1) JANAB HAKIM MUHAMMAD KABIR-UD-DIN SAHIB BAHADUR, DELHIT. AND (2) JANAB HAKIM A. MUHAMMAD ABDUS SALAM SAHIB BAHADUR, EDITOR, 'THE HAKEEM AND VAIDYAN', MADRAS (ENGIIBH TRANBLATOR OF THE URDU EVIDENCE OF No. 1).

Q. 1 I propose to deal with indigenons systems in general and the unani system in particular.
Q. 2. (a) Before I enter into the field (of discussion) of the theories of cansation of diseasen acoording to the unani system, I think it necessary to panse for a while and to ask the alleged ocientific critios to kindly enlighten me as to the historical origin of their system and to trace the ciroumstances under which it has attained its vigorous youthful growth and is being considered with pride as far superior to the unani system. May I therefore orsve permission to present to you a cursory outline of the history of the origin of the allopathic system?

It is a pity that the practitioners of the allopathic system dazaled by the splendour of new instroments should (in their ignorance of other systems) deem the sacred and time-honoured unani aystem as barbaric and nnscientific. Words fail me to convince you that the eame anoient
unani system is not only the holy progenitor of the allopathio systen but is the syatemr whioh: has fondly nurtured it, so that the latter has attained the state of a beautiful and blooming: young maiden charming enough to hypnotise the allopaths.

I can say without fear of oontradiction that the allopathic system is virtually, and fondamentally the self-same unani system whioh accompanied the progressive Muslim rule to the ignorant and uncivilized continent of Europe and made a oonvert of the whole of Europe; and for long its illaminating rays lighted every nook and corner of that continent.

Can Europe alter the history of its medioal science? Can it forget the times when Earopearin stadents derived instraction in their medical colleges for centuries together from the self-same honoured unani books which they were then hagging to their bosome and which in Arabio find a place to-day in the syllabus of our medioal colleges? Is it not a fact that the students and savants of France designated the Qanoon (the Canons of Avicenna) 'the key of knowledge and wisdom'? Are not the dogmas and theories of Aflathoon (Plato), Bukhrath (Hippocrates), Arastu (Aristotle), Jalenoos (Galenus), Ibn Rushud (Averrhoes), Zakaria Razi (Rhazes), Shaik Aba Ali Sina (Avicenna) even now given a place of honour and prominenoe? Do not the best brains of Europe spend their time and energy in pondering and experimenting apon their honoured utterances?

The history of medioines shows that when the tide of the trimphant march of the Maslim monarchs swept over. the continent of Europe rendering fallen Spain the seat of the Khilafat, the science and art of medioine followed in its wake and flooded the whole land, and that for long the magnanimity and liberal-mindedness of the Maslim monarchs served to dispel the .ignorance and darkness pervading in that land by the torch of their own learning which brought in its train the blessings of material prosperity as well as of soience and art.

Then followed the inevitable reaction (common to all earthly institations) as a resclt of which the Muslim empire (one enormons in its size) gradually decayed and crumbled, and its boundaries shrunk to the nuolens round which they have grown. With the disappearance of materiad prosperity, the torch of Muslim soience and art faded like an expiring candle and the great centres of learning with whioh they were lighted beoame dim and lost their name and fame. It was now the turn of the Earopeans who had attained considerable skill and soholarship under the learned Arabian and Maslim professors to rekindle the expiring torch of learning. The sciences and arts thus received a fresh stimulus and reaohed the zenith of their perfection what with inventions and improvements. No wonder that the unani system developed itself into such a blooming and embellished (healthy and vigorous) maiden (institution) that to-day the allopaths hardly discern in her (it) her (its) old characteristics and features. It is rather diffioult for them to believe that their present system is the old unani system attired in the new garb (of accumulated experience). The appearance of the system in this garb and the ignorance (of the history of its origin) is the cause of many a misunderstanding not only in details but also in essentials. Even the most biassed votaries of the Weatern soienoe cannot deny the historical trath that their system is, in essence, its unani progenitor to which time has made new contributions changing ita features to a certain extent.

All evidence therefore points to the allopathio system being the transformed unani system: Can any sensible man, in the oiroumstances, declare the unani system to be crade and unscientifio? If (out of ignorance) he does so, should he not be deemed to indirectly attack the (basic) prinoiples of his own system?

Now I shall deal with the main questions at issue and pass in review the causes of diseases. according to the unani system. The upholders of historioal truth maintain that the theories of cansation of disease according to the unani syatem are almost identioal with those acoepted as a guide by the votaries of the allopathio system and that if at all there is any divergence between. the two systems, it is more apparent than real.
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## The Germ Throry

What distinguishes one system from the other is the germ theory introduoed by the Science of Bacteriology but this does not differ in essentials from the theory of homours inculcated by the onani system. The followers of the latter system hold that diseases are caused by the putrefaction of humours and the resultant deleterious matter, while the allopaths contend that diseases are indirectly produced by baoteria and directly by the poisonous matter (toxin) engendered by them. The distinotion thus is only in terms, not in sabstance.

What then is the effect of this verbal distinction on the treatment employed by either class of medical men $P$ Practically none. In neither case, are the basic prinoiples affected by the question of treatment and its results. While an allopath treats a oase of influenza on the assumption that the disease is caused by specific germs, an indigenous practitioner tackles it on the hypothesis that it is produced by poisonous matter of an extraordinary or epidemio type. . So long as each suceeeds in his partioular line of treatment, the theory of causation of disease besed as it is on not dissimilar premises does not make much difference.

Again the treatment of a case of oholera or of plague proceeds on similar lines, the Western doctor administering saoh medioines as are caloulated to destroy what he believes to be the germs -of those disorders and the Hakeem or Vaid calling in aid such remedies as have the effeot of meutraliaing what he terms poisonous matter.

Therefore an impartial survey of both syotems ought to reveal the saperficial charectar of the esiating differences and the bidden nature of the coincidence of the methode of treateneot, the letter being attended with success in each oase. $\Delta$ common feature will be found to bo that the external symptoms of a disease are examined as cloarly in one onse as in the other thongh they are traced to the toxin of germs or bacteria by the Western doctor and to vitisted humoure by bis Eastern coonterpart. This being so, emphasis cannot but be laid on the outward aymptoms, for once they are attacked according to the viewe formed either of beoteria or of humonrs, the diagnosis of internal symptoms follows as matter of course. The cuccomes attnined in each case is of course dependent on the similarity of the methods employed in trratment and this being the aoid test, one system cannot olaim superiority over the other, much lew oall it orude or ansecientifio.

## Matizr atd Grbme

How again does the nominal difference between matter and germs affect the question of aymptomology? What perplexities does it give rise to in the method of trestment $P$ In either oase the results accord with the aim kept in view, i.e., the deatruction of the poisonone master or the toxin of the germ. The supposed difference between the theories of oausation of disenas, however, has its origin in the invention of the microscope. Before ite advent, only the trmm ' matter', was being used by Western scientists in deseribing diseases of various Finde. The mioroscope has of course revealed the presenoe of infinitesimal organisms aslled 'germs' in what was previonsly termed ' matter' for want of a better nomenolature. If without making une of the microscope, the votaries of indigenous system have necessarily to call the poisonous matter by its original name ' hamours ', the systems themselves cannot be condemned on that ground. For in spite of the simplicity of their systems, the Eastern praotitioners are oapable of rendering as muoh service in the canse of medicine as those who have armed themselves with powerful mieroscopes, to say nothing of other modern inventions. The faot remains that notwithetanding the amount of labour and energy expended in the search and investigation of 'germe', the factors oonnected with the treatment of fatal diseases, not to speak of those of an aouts oharaoter, have not undergone any radioal change at the hands of the Western practitionern. Nor have the resalts justified the expectations formed in all pases. There is, for instance, the world-wide epidemio of influenza which is believed to be of quite recent origin. Taking the Indian aystems, its Aetiology and Pathology may be said to be at onoe meagre and vague and a bisased dootor of the Western achool may jump to the oonolasion that no mention is made of it in the indigenoas aystems. Yet the resalt of the treatment followed by our physioians has not been without ita encouraging features. Granting that a mierosoopio examination of the putrifled hamoars in the case of influenza reveala the existence of specific germs, the. possession or otherwiee of a knowledge of these germs cannot affect the main queation of diagnosis regulating the method of treatment in each case. What again if one designates the source of disease 'germs' or 'humours'?

To illustrate the matter further, a doctor equipped with a microscope traces the origin of human life to the 'Spermatozoa' foond in the seminal flaid, whereas the man not ao armed ascribes the beginning of life to the fluid called 'Semen'. The difference in terminology pointe as in other ceases to the fact that while the former has descended to details and given the matter a epecifio name Spermatozoa, the latter has adhered to the basic prinoiples and assigned a generio name to the same matter, namely, 'Semen'.

A similar distinotion between 'germs' and 'humours' will be found to exist in other cases so far as the description of diseases is concerned.

## The Causes of Diseasb.

The more we discons the question of cansation of disease, the stronger becomes our conviotion that there is not much difference in this reapect between the unani and allopathic aystems,

To quote instances, the external and internal canses known to the allopathic syotem have their correlatives in the Karijia and Dakiliah of the unani gystem.

The exciting and predisposing canses recognized by the allopathio system find their counterpart in the Abbabi Vasil and Asbabi Sabique or Muvid of the nnani system.

The allopathic system asoribes oertain diseases to heredity among other canses. We too have a long list of such diseases, the comprehensive term Amras-i-Muthavarisa indicating the same source.

If, in the allopathic system, blows and wounds are grouped under mechanical causes, the same ailments are classified under $A s b a b i$ Tafriqa in the noani system.

If again the disturbances due to heat, cold, lightning, thander and other atmospherie changes are inoluded under physical causes in the Western eystem, the same are merged in Asbabi-Mizojia in the Eastern system.

Just as the European system makes use of the term 'chemical canses' to denote the origin of disorders brought on by the improper use of poisonous drugs such as opium, nux vomica, arsenic, oroton, harmfol acids and tinctures, organic and inorganic, the term A\&babi-sumiya. Teemiavi describes the cause of similar distempers. In fact there is a whole chapter devoted to. Toxioology in our medical books.

The allopatha trace most, if not all, the diseases to the toxins produced by the supression of the biliary secretion, the retention of arine and the accumalation of indigestible matter, sach toxins being termed endogenous poisons. This does not take ns far from the theory of humours or putrified matter on which is based the unani system. Thus if the several causes known to both the systems are carefully analysed, they will be found to agree in essentials, though not in phraseology.

If the allopaths, after a deal of experimentation with germs, have come to lay stress on infection as a prolific source of disease, we too have from time immemorial recognized its potency, the term Uduva connoting contagion in our vocabulary. Had not Plato, Hippocrates and Galenus a list of contagions diseases in their own time?

So much for the agreement between the two systems traceable to the identity of their basic principles. Coming to details however the parastic canses tend as already stated to separate one system from the other. In the diagnosis of diseases we concern ourselves only with such diseaseproducing parasites as oan be seen with the naked eye, whereas the allopaths add to the list of such parasites by making new discoveries with the aid of the microscope. In view of the rapid advance made by the Science of Bacteriology germs have been foond in those diseases in whioh there was not at first the least trace thereof. It is not therefore beyond the bounds of possibility that bacteria should be discovered even in such diseases as are now considered to be immone from them. Seeing that the disorders which were once thought to be free from germs have later on been traced to their presence and that additions are being made to their number from time to time, it is not fair on'the part of the allopaths to condemn old systems merely on the ground that they do not make mention of bacteria in the terms known to themselves.

It will therefore serve no useful purpose to disonss the correctness or otherwise of the germ theory on which the Western system is based, so Iong as facilities for a practical study of this theory are not within the reach of the Eastern systems. Given public and private patronage and necessary facilities for research and experiment, we too are bound to proceed on the same lines and arrive at identical results thereby wiping off the nominal distinction that at present exists between the occidental and oriental systems. If through their vast resources the allopaths have found it possible to reach the goal earlier, it is none of our fault; for as long as patronage is withheld from us, things must be as they are.

The germ theory, forming as it were the dividing line between the Western and Eastern systems, does not after all affect the question of treatment of diseases and it is here that the indigenous medicines play an important part, having proved their effioacy and utility in spite of the vioissitudes of ages from the point of view of health and economy.

Long live the indigenous "systems which continue to serve the needs of this vast eontinent, be the difficulties what they may!
(b) Again I have to say that allopathic syatem being founded on the unani syatem the principles and methods of diagnosis followed by that system is more or less identical with those recognized by the unani system.

## Principles of Diagnosis.

The following category of synonyms as applied to symptoms of diseases is illustrative as to what has been said of the identity of principles :-
(1) Premonitory or precursory symptoms : a lamathi munsira.
(2) Direct or endopathic symptoms : alamathi sathia.
(3) Indirect or sympathetic symptoms : alamathi shivikia.
(4) Local symptoms: alamathi muqamia and khasa.
(5) General constitutional symptoms : alamathi ama and badania.
(6) Subjective symptoms: alamathi shaqsia.
(7) Physical or objective symptoms : alamathi thabia.
(8) Pathognomonic symptoms: alamathi masqasa.

There are of course certain terms in the allopathic systems for which it is difficult to find corresponding epithets and vice versa. The following are examples of terms which are foreign to the allopathic system :-
(1) Alamathi jowharia.-Symptoms that signify a change in the form of an organ.
(2) Alamathi arsia.- Symptoms that connote a change in the size of an organ.
(3) Alamathi thamamia--Symptoms that indicate a devistion from the normal functions of an organ.

## Methods of Dingnosts.

The main difference between the two systems is accounted for by the use of the newly invented instruments. To asoertain the temperature of the body or to determine the strength of the heart's beat, we feel the patient's pulse, whereas the allopaths bave recourse to the thermometer for the same parpose. In one case the result is based on experience and'hence approximate, While in the other it assures definiteness in view of the confidence induced by the thermometer. The difference of temperature dae to the different methods employed is not after all appreciable being not more than a degree in practice. On the other hand a patient exhibits slight differences in temperature when examined with the aid of thermometers of more than one make. Thus even thermometers are not free from the defects that are inherent in a system where the art of feeling the pulse plays so important a part. These defects do not however materially affeot the methoda-
of treatment. In spite of this fact, wo neither deny the atility of the thermometer anr objoot to the use thereof. Bat the point we wish to emphasixe is that, if at preeent we do not have auch instruments to rely on, the aame was the case with the allopathe in by-gone days and that, if the modern medical school has realized ita need, we too are ready to adopt it.

Similar remarks apply to the use of stethoeoope. Just as the sllopathe have not heaitated to incorporate the best features of other systems in their own, we too should be allowed to embody in oura the corresponding features of other systems. In spite of auch ocossional adaptatione the use of indigenons medicines will be found to be the main characteristic that diatinguiabee the Eastern from the Western system.

Our methods of diagnosis are based on the examination of-
(1) Pulse : We have continual recourse to this method of diagnosis, for the beart in affected in many diseases leaving its condition to be determined by the pulse which bae direct oonnexion with it. In this respeot both the systems agree.
(2) Urine : As in the allopathic system, the examination of arine in our system helpe $\mathrm{a}_{\mathrm{a}}$ to diagnose the state of the kidneys, liver, digestive organs and blood. But we havo our own terms to designate the various phenomena disclosed by such examination.
(3) Fæces: Like the allopaths we examine the form, colour, consistency and odour of the faces with a view to trace the asuses of certain diseases.
(4) Internal organs : By palpation and percussion, by their aatasing pain and enlargoment we diagnose the diseases of the liver, apleen, atomach, intestinee, heart and lunge as is being done by the allopaths.
(5) Description of disease: Our medical books give a complete acoount of every disease suoh as is to be found in the treatises of the other aystem. In them we find mention made of the differential and pathognomonic symptom which forms the basis of our diagnoais.
(6) Tongue : We examine the tongue to see whether it is coated or not, such examination enabling us to learn the oondition of the blood and digestive organs.
(7) Lips, teeth, throat and tonsils are also examined with a view to the diagnomis of diseases.
(8) Saliva : We base our diagnosis on the quantity and quality of saliva, ita tante and consistency. The changes. in taste also serve as an index.
(9) Hunger and thirst: : These desires also help the diagnosie of diseases by their moderam tion or otherwise.
(10) Respiration : The frequency and odour of the breath in also a determining tactor in our system.
(11). Vomitis The natore of the vomit likewise becomen a gaide in the diagnosis of diseases.
(12) General condition : We also take into account the condition of the hair, the colour of the body and its organs, the leanness or otherwise of the constitution, the exoretions of the body other than urine and fæces such as.tears, pas, perapiration, eto., the amount of sleep enjoyed, the mental state of the patient, his physiognomy, his dreams and the pains felt in the different regions.

It is now pertinent to ask which of these methods are onscientific. As to the question whether or not our diagnosis is correct, we had better rely on the practical resulte of our treatment rather than waste time over argoments based on the ignorance of the Eastern syateme. The very fact that these systems enjoy extensive public patronage in spite of the lack of Government support is indicative of their inherent virtues. At present there exists no provision whatever for a systematio study of the oriental systems and the free distribution to the massea of the medicines prescribed by them; yet the systems sarvive on accoant of their potent efficacy. Hed the ease been otherwise, no nation would blindly submit itself for centaries together to what are regarded as coarse methods of treatment at the risk of precious lives.

## Metifods of Treatmbit.

Before dealing with the methods of treatment of the unani system, I should like to make a few observations on those employed by the allopathic system. Empirical treatment and rational treatment form at present the two main divisions of the allopathic system. If, in spite of the much-vannted scientific advance, empirical methods are not wholly absent from the allopathic system, is it justifiable to call the other systems unscientific merely on the ground that the latter rely more largely on empirical treatment? It is a principle recognized by the allopathic system that what is deemed empirical to-day may prove pational to-morrow. Let us then continue the use of indigenous medicines to which centuries of experience have accustomed us. To the allopaths these methods may seem empirical but like them we may be able to prove their rationale if we are afforded necessary facilities. For example, the use of mercory in cases of syphilis was considered to be empirical by the allopaths who none the less were benefited by it until its rational basis was eatablished by research. Given therefore favourable conditions, it is more than possible that we too will be able to find a rational basis of our remedies,

Proceeding forther, in the anani system are to be found three methods of treatment(1) medical, i.e., Ilaj-ba-dawo, (2) dietic and climatic, i.e, Ilaj-ba-giva vo-hava, (3) hygienic, i.e., Ilaj-ba-tadbeer. To the above may be added the palliative treatment, i.e., Ilaj-bith-thakfeef. It is presumed that the Western system also recognizes some such olassification. The allopathie treatment as distinguished from the homeopathic treatment aims at producing such conditions in the body as are antagonistic to the disease with which it is affected and thereby effect a cure. If this is deemed to be a scientific principle and the same principle is observed by the unani system, what jastification is there for declaring the latter to be ungcientific?

## Modes of Adminestering Dregs.

(1) The bulk of our medicines are administered through the mouth to admit of their being ahsorbed by the mucous membrane of the stomach or intestines. Unaer this category fall aqua (araq), syrup (sharbath), oxymel (sikinjabeen), powder (sufoof), pill (hab), decoction (joshanda), infasion (keesanda), tablet (kurs), confection (majoon), oil (roghan), macilage (luab), extract (rub), linctus (layook), conserves (murabha), oxide (kushtha), kameera (a kind of oonfection).
(2) We make use of gargles, tooth-powders, lozenges, sprays and collutoires in the affections of the moath, teeth and throat.
(3) We press the enema into our service whenever necessary.
(4) We have recourse to snuffis, inhalation and insoffalations in diseases of the nose, larynx and lungs.
(5) We employ oils, ointments, pastes, paints and fomentations for external application.
(6) We bring into use the syringe, bougies and collyria in the diseases of the nose, bladder, urethrs, vagina and eyes.
(7) Besides the above we avail ourselves of emetics, diaretios, diaphoretios, purgatives, - emmenagognes and blood-letting by means of lancet and leeches whenever necessary. It must be observed that blood-letting is not now much in vogue.

The above facts point to the close similarity that exists between the two systems in the matter of administering medicines. It may be remarked however that injeotion of medicine are not in vogue in the unani system. If this method is universally recognized to be free from . defects, we too shall adopt it. At present there are a host of eminent western doctors who are against the injection of medicines.

## Reasor wity our Indiarneots Medicines' are Eppicactous.

(1) Our medicines are prepared mainly from the products of the country in which we are born and bred and no wonder that they admirably suit the Indian temperament.
(2) The drags and compounds we use are based on the experience of centuries and this is why mach reliance is placed on them. All these have been experimented upon the people living in the Tropics while the medicines imported from Europe have been tested on the men residing in cold regions. To quote an illastration, the maximum dose of quinine mentioned in the allopathic materia medica cannot be taken by an Indian patient without producing untoward symptoms although it may suit a resident of Europe. Both observation and science prove that in cold countries the animals are endowed with a strong body and thick skin covered with hair or wool as a protection against the rigours of cold. The lesson to be derived from this phenomenon is this. Diseases which are congenial to a particular soil are offset with oures out of the same soil. I have heard of a herb in Simla or Kashmir which on touch produces pain similar to that produced by the sting of a scorpion but nature has provided an antidote for this in another herb which grows around the one whioh causes pain.
(3) We largely avoid using poisonous drugs. In cases in which this cannot be helped the drugs are parified with a view to lessen their potency so far as the poisonous effects are con--eerned. The allopathic system on the other hand has recourse to poisonous drags in a greater degree especially in the form of tinotures and alkaloids thereby intensifying their potenoy in relation to poisonous effects. For example, we use nox vomiea after soaking it in water for a long time, imbedding it in flour and boiling it in milk in succession whereas the allopaths extract out of it strong poison, viz., the alkaloid strychnine and nse it. The result is that although the allopathic aystem takes oredit for the instantaneous effects of its drugs, it is not free from the riske attendant in the use of medicines of powerfal potency. Our medioines, on the other hand, though slow to operate are certain in their effects. What is more, they are entirely free from dangerons after-effeots. It is just possible that the diagnosis happening to be wrong, the use of powerful medicines may lead to fatal results. Muoh as we value the need for instant relief in the oase of a patient, we prefer to cure his ills step by step and thereby avoid the risk of endangering his precious life. This is the prinoiple underlying the use of poisonous drags in a parified form. In the course of a casual disoussion with regard to the merits of the onani system, a Hootor-friend onoe said to me: "Brother, to be oandid, it is very difficult for a patient to recover who has been mishandled by us." As I understand the statement, onoe the poisonone effect of medicines come to stay in the system, it is very difficult to eradicate them.
(4) The effioscy of our treatment can otherwise be demonstrated by obverration and experiment. Let the Government apend as muoh money on the Indian systems at they do on the allopathio aystem; let them provide collegee for turning out efficient and capable men of the one system as of the other; it will then be time to prove by atatistios how many have been benefited by the Indian aystems and how many by the allopathio syotem by reneon of the patronage extended to each.

To conclude, the real cause of the retrogression of the Indian oystems is to be fonnd in the oallous indifference of the State towards them. In the oiroumstanoes on aystema do not deaprve to be called orude or anscientific. If the State desires that the systems should make real progrene let it ensure this by granting facilities, not by oreating diffioultiee. Let the State make proviaion for ensbling us to open colleges and to found hospitals for systematic study. Let our statua be improved to enable us to bring research to bear on our theories and to make such additions and improvements thereto as may be found necessary. Failing this, the State must take early strpa to extricate from the olutches of the so-called unsoientifio Indian systems millions of those who at present do homage to them. In the circumstances the inanition of the State cannot but be deemed inexplicable.

I can affirm with certainty that many a time have the indigenous systems of treatment resulted in miraculous cures when the allopathic system has onded in fnilure. This is a mattor which has come within the cognizance of both doctore and hakeems. The reasons are the same as those mentioned above.
Q. 3 (a). -I am a professor of Anatomy in the Tibbia College, Delhi.
(b) The existing indigeneous institutions with the exoeption of the Tibbin College, Delhi, are far from satisfactory, from both standpoints. We are not provided with a cufficient number of medical colleges wherefrom efficient hakeams and vaids can be turned out or of hospitals and dispensaries wherein the students can be trained in clinical methods and regular practice of medioine. The authorities of the Delhi College iteelf are aware of the leeway they have to make up in both respects and are bent on organizing it on up-to-date lines.

I am of opinion that the indigenons systems deserve for their spread the same enoouragement as is afforded to the allopathio system and for this purpose it is essential that not only medical colleges should be opened bat they should have hospitals and dispensaries attaohed to them and that apart from suoh combined institntions every city, Kasba (station) and Thasil (taluk) should have a hospital or dispensary managed by capable and efficient practitioners.
(c) The existing provisions for medical relief and medical education are as atated above insufficient if it can be said to exist at all. The remedies are the same as those already suggested; viz., State patronage and the opening of colleges and dispensaries. As in the case of the allopathic syatem, Madras might form the neuclens of a college for the imparting of indigenous medioal eduoation with a sufficient number of local and muffasal hospitale and dispensariea designed on similar lines.
Q. 4 (a).-
(1) Most certainly! This requires no argament to support it.
(2) Exactly so! None oan dispute the proposition that medical education if it is to be scientific and thorough should enjoin the use of well equipped hospitals, laboratories, libraries and museams to the fallest extent.
(3) Quite so. This ideal has not been attained in Madras or any other part of India; but the Tibbia College, Delhi, hopes to be able to attain it in the near future being much in advance of other institutions. I need not aay much about this aince the Beoretary of the Committee has come all the way from Madras and visited the college while at work. The main deficiency of the college hitherto has been the lack of provision for dissection work but the difficulty has since been got over by the weekly supply of two dead bodies for purposes of dissection.
(b) The abovementioned ideal cannot be considered too high, since a course of medical study whioh does not include the above essentials is only a misnomer.

I think that this is the ideal to be oltimately attained and for that resson to be kept in view from the outset and that it will suffice for the present if students are depated to the Delhi College which for all practical porposes is self-contained. The srrangement might terminate on due provision being made for effective training in the City of Madras itself.
Q. 5.-I do not concur with the view of the Calcutta University Commission in its entirety. While I do admit that sach theories as cannot stand the test of experiment may have to go, on no account can the ase of indigenous medicines be dispensed with? Granting also that the theoretical differences between the two systems do disappear in coarse of time, the use of indigenous medicines on a comparatively large scale will continue to be the dividing line between the one system and the other.

Such harmony as is possible can only be reached after a discusaion of controversial points by a committee composed of the votaxies of the two systems. It is essential however that those solected for the purpose should be men of acknowledged ability and deep learning who have made a comparative study of both the systems. Otherwise no useful purpose will be served by the constitution of such a committee.
Q. 6. I entirely agree with the riew that the ourrioulum of atndies of indigenons modioine should inolude a study of modern scientifio methods if it is to keep pace with the present-day. requirements. Care ahould however be takeri to gradually introduce the sabjeote of stady so that the stadents may not be handicapped by a heavy curriontom. It is equally necessary that the terms and nomenclatore osed should be translated so as to appear in their native garb (Urda) without any admirture whatever of English or Latin. The experience of the Delhi College has been that so long as foreign Anatomical and Physiological terms were adopted the studenta did not take to them readily as evidenced by the way in which they fared in the examination but as soon as correaponding Urdu terms were introduoed there was a marked ohange for the better in the interest evinced by the students both during study and examination. Perhaps there may not be enough of Ordu books to supply all the wants of the students in this respect bat the time is not for off when the deficiency will be made up in view of the help being rendered by the Delhi College whose constant endeavour is to remove these and other disabilities.

## Coursb of atudiss.

At the commencement it is not desirable to have progressive standards corresponding to those of the allopathic system. After passing throngh successive trials, the Delhi College had adhered to only one standard and this should suffice for the present. The course of stadies of the Delhi College extends over a period of four years as under:-

First year (1).-Anatomy: Bones, ligoments, musoles and dissections, (2) Medioine (prinoiples) Moojazal Qanoon (Urdu), (3) Physics, (4) Chemistry.

Second year (2).-Anatomy and Dissections (to be completed), (2) Physiology (full course) (Another year may be allotted if necessary), (3) Medicine (principles) and Hygiene; Nafeesi (translated), (4) Materia Medica (principles) Nafeesi, (5) Biology.

Third year (1).-Materia Medica and Practical Pharmaey (Action and Therapenties), Nafeesi, (2) Medicine (Treatment) Sarahi Asbab, Part II up to fevers, (3) Bacteriology, (4) Surgery, (5) Attendance in the Hospital, the medical and surgical wards and the out-patienta department and practical training in Medicine and Surgery.

Fourth year (1).-Medicine (treatment) Sarahi-Asbab, Part I and the book on fevers by A vioenna, (2) Surgery, (3) Midwifery and attendance in Hospital as in the third year.
(b) I have already stated in the beginning that there shoold be only one standard for the whole course of four years. For the preliminary qualification a knowledge of Urda of the School-final grade shovid be insisted on and preference given to those who have in addition obtained proficienoy in Persian and Arabic.
(c) The medium of instruction should be Urdu; for in that language have been translated neveral standard works on medicine not only from Arabic bat also from English.
Q. 7. I am for extending medical registration to Indian systems in due course, for such a step if taken at present, will retard their progress, facilities for torning out of the requisite nomber of practitioners being practically non-existent. Reform mast therefore wait the emergence and spresd of sach men. As matters stand medical registration will prove suioidal to the best interests of the indigenons systems. It has to be borne in mind that the Medical Registration Act did not come into eristence until the increase in their namber and the area of their distribution warranted such a step.
Q. 8. It is a patent fact that indigenons drugs and medioines being of Indian origin are mpoh oheaper than similar articlen imported from Europe. Apart from the cost of collections the foreign drugs have to undergo expensive chemioal processes and then they have to pay transport charges, railway and steamer freight, costoms duties, making in all a heavy toll of charges. How can these medicines then be expected to be less costly than indigenous medioines $P$ For example, when we can use nax vomica after a simple process of purification, the allopaths have to rely on extract of nax vomica and its alkaloid (stryohnine) got after a complicated prooess. What costs a few annas means much more to the allopaths.
Q. 9. The causes of deoay of the indigenous systems are-a
(1) lack of medical institations where a systematio training can be given in these systems;
(2) absence of hospitals and dispensaries where what is taught can be pat into practios.

These steps necessarily involve a heavy initial and recurring outlay requiring State patronage for their realization. The present system of acquiring book knowledge withont any practical training whatever serves no useful parpose. Unless the Government take speedy steps for the establishment of indigeneons medical colleges, hospitals and dispensaries for the parposs of affording both theoretical and practical training, the indigenous syatems will remain in a baokward condition without any possibility of revival.
Q. 10. The asme means may be adopted for fostering and promoting the indigenons systeme by the agenoies conoerned as have proved successfal in the case of the allopathic system,

## Punjab. (10)

## hakim jagan nath hadiabad.

I beg to sabmit to you herewith the answers to a list of questions sent to me with your office letter No. 932-1 8., dated 28th April 1922.
Q. 1. I have to deal with the unsni oystem of medicine as praotised in Indin
Q. 2. Before the desoription of such theories, the "disease " shonld nooesurily be dofinod.
(a) The "disease" (مرض) acoording to the prinoiples of unani aystem, is the manifortotion of the distarbed fanotions of one or more than one organ of the human body.

This fanotional distarbanoe originstes with any canee either in the body iteclf oalled
 may be one or some of the following oausee :-Injury, unusual oold, unnsual heat, unhealthy olimate, poisoning, mental exoitemente, and mental depressions, although theee coanses generally upset the bodily fanotions in the same way as the intro-genozs causes ( $ل$ ) do, yet for the rake of distinotion these are termed غير مادي. Both the causations and give effect to the production of a poisonous matter (بادر غير طبعي - هاده موذي) of a known or an unknown nature in the body; this poisonous matter being not benefioial to tho bodily development and assimilation is not inoorporable bat at any cost in to be got rid of from the tissues. The managing forces of the body (bus) struggle to disoharge it through any soitable channel. The struggle is aometimes very hard, painful, and bloody, and sometimes very slight and negligible, with the appearanoe of various aymptoms, whioh we oall generally the aymptoms of a disease.

The principles of the above explained theory are so correot and sound that the modern scientific oriticiem oan hardly affeot them.
(b) The diagnosis of a disease acoording to the unani aystem is generally made with the consideration of the following facta :-
(1) The morbid organ.
(2) The atmosphere and climate.
(3) Aonteness and chronicity of the disease, its orisis, course, infeotion and noninfeotion.
(4) The position of the patient he assames, his hunger, thirst, sleep, disposition, faoies, his calls, age, sex, blood, spatum, urine, feees, skin and family history.

As for the treatment, it is based on the fact that the disease is aotually an ontoome of the struggle of the bodily meohanism to get rid of the injurious matter (م) produoed in the tissues; the physioian has it his duty to assist and support the bodily tissoes to combet and rejeot the harmfol matter ; the assistance, on the part of the physioian, is offered in various waya in the form of treatment, as by-

Rest, en joyment; massage, suitable climate, emetios, purgation, perrspiration, diuresia, venesection, oupping, leeching, £asting, hydrotherapy, heliotherapy, speciflo medioation, and the neoessary surgery.

Such a treatment proves generally efficacions. The reliable figares, as the Unani physicians are not in the habit of keeping record, are not available, yet the general popularity and strength of this treatment is evident from ite soceptance by the majority of the people of tha country.
Q. 3. I am oonneoted with the All-India Tibbia Unani and Ayarvedio Donferenoe, Delhi, as one of the exeoative members of the Standing Committee of the Conference.
(a) The Oommittee goides all the institations in connexion with the indigenons ayetems.
(b) Tibbia College, Delhi, is a good central institution in India giving education in the indigenons systems of medicine; with a support from the State it oan promise to meet nearly all the requirements for such training.
Q. 4. (a) Such an ideal is attainable in the present atate in the above said Oollege at Delhi ; and the answer to $1,2,3$, is positive.
(b) The ideal is not too high for the present; it is attainable with every satisfaction and -aciness.
Q. 5. The view of the Commission is, to some extent, correct and soond, bat such an ideal can bo attained with liberal-mindedness ; both the syatems be made to embrace, once more, each other intimately. The Indian systems shonld be recognised by the State, the professors of each system may exchange their views, so that the sound and healthy principles may be colleoted and monlded into a oniform system for the good of the human being.

Allopathic system, to tell the trath, has a common origin with the unani syotem, the anatomy and physiology of both the systems contain dozens of technical terms which originato in the old Greek language and give a olear olue of the common origin; Colon, in nnani Kolon

Shyle, in Unani Kaloos Chyme, in Unani Kamoos كيلوس Melanoholia, in
 Bulimia, in Unani Boolimoos Diaphragm, in Unani Dyafragma such terms give a good story of their past. Since the invention of the miorosoope and disooveries of various chemioal methods, the Allopathic system adopted quite a different course. With these new methode, although the Western system has made a brilliant progress, Yet in course of this high speed omitted and practioally lost several indispensable and golden prinoiples of the old Unani system. The prinoiples of crisis (كحرأ) lined ont by the Unani authors serve a good gaide for watohing the course of the specific fevers, and other aoute diseases accompanied with pyrexia. Fasool Bukrati (نصورل بتراطي) and Rasala Kabaria (تبرير) contain very solid and sound prinoiples for the general diagnosis of the diseases, but it is a pity the Allopathio syatem lost all these gems in haste, and is not able, as yet, to regain them. Chemical methods could not afford a prompt help to the western system, several usefal drags have not been handled, as the chemistry tells nothing of them. Cassiae Pulpa (عسل (عخل) produces a marvellons effect in lowering down the temperature of the fevers, though the doses may be amall, and no purgation produced, yet the febrifagal effects are certain and experienoed in daily praetise ; the western chemistry and Allopathio systems tell us the drug is merely a purgative. .The ahemistry and other methods in Allopathic system tell us little of the effeets of Nux vomica in syphilitio affections, but the Unani physioians benefit the eyphilitio patients daily with the use
 vomioa being half of the whole mixture. There are nomerous valuable drugs of whose oharacter the western physioians are atill ignorant; and they oan have the chance of gaining several good things from the hands of the Indian physicians in the case of an aotual association with them.
Q. 6. The Oorriculum of Stadies of Indigenous systems should necessarily include a study of modern scientifio methods connected with the medioal soience.
(a) The progressive standard may be proposed with the addition of the word ' Unani' as L.J.M.P., L.U.M.B., M.D.D. eto.
(b) The period of the stady should be the same as for Allopathic study, and the preliminary qualifioations must not be lower than the standard of Matriculation.
(c) The medium should be Urdu or Hindi, or if possible the vernacalar of the province.
Q. 7. The extension of the Medioal Registration A t to Indigenous Systems of Medioines would better the position of the physicians of good ability and akill.
(a) The physioians having the qualification of Matrioulation, or Manshi Alam (aind Manshi Fazal (منشي مانشي) and having a oonstant and regular praotice of the profession for more than 15 years may be considered and oonfirmed as qualified practitioners, and a limited number be elected from amongst them for the formation of Registration Board which may be given the power of admitting other competent hands.

The standard of qualifioation oannot be fixed antil a special revised ourriculam of the study be pablished under the supervision of a joint committee.
(b) The legislation on Medioal Registration oan be ohanged or amended acoordingly.
Q. 8. The difference in comparative cost of the medioines in $W$ estern and Indian aystems is not a thing to be taken into acoount.

While one medioine for a disease comparatively in one system is cheaper, the other medioine in the same system is oomparatively very dear.

No doubt a large number of herbs of moch value in indigenous systems is obtainable for use, without the expense of a single pie, bat not is the oase with all the drugs in use.
Q. 9. No standard of qualifications for the professors of the Indian systems was fixed by the State, nor these systems were recognized by the State, hence the progress stunted.

For the progress it is an essential thing to recognise the systems, and to encoarage the able and experienoed men in the profession. The books of the Indian systems be revised by a joint oommittee of all the systems, annecessary material in the books be eliminated, and soond principles be acoepted.
Q. 10. The State can do mach good for these systems by adopting the -
(1) Measures mentioned under item (9).
(2) The local boards can help these systerms by the appointment of able men in oharge of the dispensaries of Indian medioine, and by the production of the liberal funds for the pablication of the graphio treatises on these lines.
(3) The universities may encourage the able men by granting honorary degrees to them, and by pablication of the up-to-date booke on these systems.

The physicians may be allowed to attend the medioal libraries and other institutions conneoted with the medioal soience.
(4) Individuals can make donation.

## 8r. MELA RAM VAIDYA, y.a, m. . .ap.a.

Q. 1. Ayarredio.
Q. 2. (a) Disoase is canced by-
(1) Internal casusea.-Admission into the system of harminal matters oapable of oauning diseases, through the agenoy of food, water, air or otherwise; taking of food unauited to timo, ocosaion, climate, eto.
(2) External-Breaking of hygienio laws with regard to all matters exoept diet.

I oannot say how far the above stands the test of " modern soientific criticiem" unlese I know what " modern scientifio oriticism" precisely signifies. I shall be glad if it is erplained to me.
(8) Disease is diagonised by some or all of the following methods :-

1. Seeing the patient,
2. Touching the patient,
3. Hearing the patient's description of his troubles,
4. Examination of the patient'a urine.

Treatment consists in administering to the patient internally or externally or both ways, as considered adrisable, a single, componnd or a mirture of medioine in proper form or waye required for it in each cese. The medioines presoribed are such as are known to have the property or properties of ouring the particular disease and the varions complicatione existing therein or likely to be created in near future.

My own views are that the general efficacy of my treatment is very atisfactory. In proof of this however I am unable to give facts and figares, as I am not, for want of time, able to maintain and record statistics of my work of treating patients. I oan, however, furnish a general proof in support of my views in the shape of a very large number of nnasked testimonisla given to me by various patients, of almost all sorts of diseases both soute like Cholera, Plagae, Infuenza, eto., and chronic like dysentery, ague, diabetes, eto. I do not enolose these with this reply, but will be glad to furnish the same to the Committee if required.

I have no speoial views on this as I never had the ocossion of riewing other systems from suoh a standpoint. I can however say so mach that the system that I profess is generally very officacious.
(a) I have no connezion with any bat my own private medical practioe whioh is hereditary to me from seven generations.
(b) I do not consider the existing institution of indigenous systems to be satisfaotory with regard to-

> 1. Adequacy of medical relief provided,
> 2. Buitability of Oentres of Medical Eduoation.

Regarding (1) The reason in my opinion is that indigenous systems are practiced by private agencies alone, pnaided by Government or local boards, and suoh agencies are comparatively fewer than Allopathic contemporaries and being financed by individuala, cannot provide adequate medical relief in the face of Allopathic institutions sapported by Government.

Regarding (2) I do not think there exist any suitable schools or colleges for the ctudy of indigenons systems and such as there are, are defective in various respects. Private tuitions where recaived or given is also generally unsatisfactory. This is one of the main reasons why very fow people oan go in for this profession. As a mattor of fact, this profession has become limited practically to men who inherit this and are thas in a favourable position to study the system at home. Fresh enterprise in the line is very rare.
Q. 3. In my opinion, the present provision of medical relief and medical education on indigenous lines is insufficient. The only measure that $I$ would propose is that properly institated sohools and colleges where both theoretical and practical education on indigenous lines be given should be opened; and to encourage admission to such schools and colleges, certain privileges in the beginning should be provided. There should be publio hospitals of indigenous systems appported by local boards and Government in towns and cities, and as a matter of faot everywhere where at present medical relief on Allopathic lines is administered. This would open a line of Government service as well in the indigenous medioal profession and would attract capable and educated young men to the profession.
Q. 4. (a) I consider that the three things in the questionnaire are essential for proper medical training. Regarding 3 my idea is that the college institution ahould be in big oities where these should have public hospitals attached to them and professors of varions subjects in the college should be on the staff of the hospitals, so that apart from literary developmente they may have excellent ohances to specialise in their particular branches of medicine and argery by practical treatment. I do not consider that the ideal is attained or is attainable in any of the eristing institations but I have no hesitation in saying that such is attainable in institutions that may be opened to attain the ideal with reasonable finanoial sapport.
(b) I do not consider that the above ideal is too high and I consider that it oan be given offeot to immediately, provided reasonable encouragement is provided to attract people to this profession.
Q. 5. I do not agree with the views of the Caloutta University Commission that a unified rystem of medioine is desired by the numerous adherents of indigenous systems, nor do I consider suoh a unified system to be practicable. The theories of the oausation of diseases and their treatment seems to be widely different in the eastern and western systems both of which stand the test of aotual observation and experiments in their respeotive situations. I do not think it strange that both systems are correot bat surely they are different and cannot be nnified, my idea therefore is that the ideal should be to revive the eastern system in its own place and not to establish a onified system.
Q. 6. The complete indigenous Ayorvedic system of medicines does inolude all the branches of soience mentioned in the questionnaire which should necessarily be studied by those preparing for this profession.
(A) (B) (C). The complete course of study should be divided in three progressive standards as below:-
(1) Vaid.
(2) Rajvaid
(3) Vaid Bhashan
(i) Candidates with Pragya, or with Matrio certificate with second language Sanskrit should be admitted to this standard. The course of study should extend over two years and shoold comprise the stady of -
(1) Madhav Nidhan.
(2) Niganth.
(3) Sharangdhar.
(4) Rasgranth.
(ii) Rajoatds.-Candidates with Visharad certificate or with F. A. certifioate with second language Sanskrit should be admitted to this standard. The course of study should extead over two years and ahould comprise the following :-
(1) Sharirak (Sqshrat).
(5) Madhav Nidhan.
(2) Chikitsa (Charaka).
(6) Niganth.
(3) Surtasthan (Bhag Bhat)
(7) Bhav Prakash.
(4). Rasgranth.

Qualified vaids with not less than two years practical experienoe should be admitted to the final examination of this standard as private candidates.

The mediom of instructions in both (I)'and (II) above should be Hindi.
(iii) Vaid Bhushan.-Candidates admitted to this standard should either be Shashtris with Matric certificates or B. A. with Sanskrit seoond language. The course of study should extend over three years with a fourth year of practioal training in which a certain training period allowance should be given to the candidates. The final examination should be held after the close of the third year and in this examination admission should be allowed to qualified Raj Vaids who would have passed the Raj Vaid standard at least three years before appearing in the Vaid Bhashan degree. No training allowance should be allowed to those successful privata stadents bat they shoold be admitted to the training year during which period they should be at liberty to practise as Raj Vaids. The mediam of instructions in this standard should be Eanskrit. The course of stady shonld comprise the following :-
(1) Shushrut (complete).
(3) Bagh Bhat (oomplete).
(2) Charaka (oomplete).
(4) Ras Granth (oomplete).
Q. 7. Extension of medical registration to indigenous systems of medicine is essential to proteot the really qualified practitioners against quaoks. The advertisers and sellers of all varieties of medioines of indigenous systems should also be included. A proper registration board ahoold be formed. A reasonable standard of capability should be drawn up and only suoh of the existing practitioners of indigenous system as satisfy the Board to be up to it should be registered. Efforts should be made as far as possible not to overthrow any existing practitioner unless ho is really worthless and harmful. As about the sellers of medicines either the persons preparing. suoh medioines should be registered mediosl practitioners or the partionlar medioines that they sell should bear certificate from proper medioal anthorities of the Board to the effeet that the medieine or medioines sold are prepared on correct indigenous lines and are bons fide indigenous remedies.
Q. 8. I consider that cost of treatment in the indigenous system is less than in Allopathio for reasons given below :-
(1) Most of the Allopathio medioines are prepared in foreign, generally European, countries; where cost of labour is higher than in India. This makes the preparation there more expensive,
(2) Freight daty, damage in transit, and middleman's profits are levied on the medicines that come to India thus raising their cost.
(3) According to the taste of richer people in Europe the medicine-makers try to aoquire a high standard of excellence in ontward form, in packing and in other contingeneiet Which do not effeot the real value of the medioine but evidently raise its cost.
(4) Richer people in Europe can afford to pay more for a medioine whinh throngh extra refining hes been made more palatable to teate, and thie is constantly aimed at by Earopens medieine makers, evidently at extra expence; in Indis people naturally tolerate to sakre she modicine in its orude form more or leas unpleasant to taste and aight and thus save the oont of refining it, which in many ceses adde little to ite original curative propertion. This is the remos of cheapnese of indigenons medicines.
(5) Medioines prepared in India are cold in any quantity required by the patient, while most of the foreign medicinee cannot be had in lese than a certain definite quantity in whioh is is packed by tho maker and whether it does or does not auit the pationt afterwarda, he has paid for a full phial, bottle, or box as the case may be and if another medicine is then prescribed the same procednre repeats itself:
(6) Indigenons medicines are prepared generally by the praotitioners of the ayatams themselves who generally sell it at very little above their cost price.
Q. 9. The causes of the decay of the indigenous systems are-
(1) Non-sapport of the State.
(2) A bsence of proper facilities to receive and give medical eduoation.
(3) Lack of faith in these systems of the people influenced by the weatern educstion.
(4) Inability of the practitioners of the syatem to prevail upon the masese and ahow to them the efficacy of the ancient systems for want of proper financial reeouroen.
(5) Non-existence of any registration or licence to practice. This bas prompted many a daring and skifful quack to advertise and sell medioines prepared from anything and evary thing, whether it comes within the Pharmaoopcos of the systems or not and oonsequent harm done by such preparations to various consumers of these shattered their faith, erroneously of course, in the system instead of in the man who is responsible for the harm done.

To revive these, I would suggest what I have detailed in my repliee to questions 8 (c), 6 and 7.
Q. 10. (a) The State should divide the total budget grant for medioal relief into two heade ' Western system ' and 'Eastern system 'and antil such time as the Eastern system has revived and come on a parallel footing to the Western or Allopathic, a major portion of the Governmeat grant should go to the former. When both systems come on a similar footing, osreful statistice of the medical relief provided, its success and cost should be kept of the two ayatems. These will afford the State a ohanoe of viewing the system on a common plane and will permita a good chance of comparison of the two.
(b) The local boards should do exactly what the State should do.
(c) The university should open a faculty of the indigenous medicines and conduot the various examinations saggested by me in reply to question 6 above.
(d) Private agencies can help the canse by taking to the atady of these syatems and by becoming either medical practitioners or chemists to prepare the varions medioines and to all them. In saying this I mean that I know varions practitioners who are competent to prepare, bat cannot prepare various medicines of the system for want of either time or funde or both, so if capitalists and men of basiness come into the sphere, proper pharmacies could be established where everything could be had ready prepared according to the book and other prescriptions of the various systems.

## (12)

Bombay.

## VAIDYA APPA SHASTRI SATHE, BOMBAY.

Q. 1. I am an Ayarvedio Physician and I mean to deal with Ayurveda.
Q. 2. (a) 'Ayurved' means the knowledge or soience of $A y$. 'Ayn ' means the combination of the material body, the five senses together with the mind, and the Atma. Oat of these three, the Atma is onohangeable in itself by any cause, either external or internal, and does not take: part in changing of anything. The material body and the five senaes together with the mind are subject to change, and when there is anch a change in them as to canae a feeling of pain in the Atma on account of its association with them, it is called disease. The body and the sensee contract disease in two ways; either (1) by some internal cause as the प्रक्रोपं (aggravation) of the Doshas, or (2) by some external canse, as falling from a trea, beating, eto.

Now we shall consider the first way of contracting disease, which is really the chief theory of the Ayurvedic system of causation of disease. To understand this theory it is neeemary to know what is a Dosha. Ayurveda is a follower of the Bix Darehanas in saying that the whole universe is composed of the five elements, viz., पृथ्वी, अाप, तेज, वायु \& धाकाय, Every material thing is made up from these five. Consequently the human body is also made up of thess five elements. The Ayurvedic Acharyas for their convenience in diagnosing and treating diseases ovolved the theory of तिदोष (Tridosha) from these five elements. They grouped together the portions of Akash and Vayu in the living body and called them Vata, the portion of

Teja they called Pitta and the portions of $A p a$ and Prithoi they grouped together and called Kapha. The terms, Vata, Pitta and Kapha they never use except in oonnexion with the living body. When these three Doshas are in proper order, the living body continues to be healthy, bot when they get deranged, they produce disease, and if not promptly attended to, canse death.

The materials in the universe, being composed of the five elemente, when inserted into the human body in proper proportions in the form of food, ete., if well digested, add to the portions of the five elements in the body. The materials baving predominantly the properties of Aksab and Vaya, add to the Vata in the body, those having predominantly the properties of Teja add to the Pitta of the body and those having predominantly the properties of $A p$ and Prothvi add to the Kapha in the body. When a man takes any food, it enters the moath, there goes through the process of mastication, and then enters the Amashaya. There it is aoted upon by Kapha.and made fit for the action of Pitta. Then it enters the Pittashaya, is aoted upon by Pitta and is separated into the life sustaining Rasa and the refuse called Malamutra. The Malamutra leave the body by their respeotive outlets, and the Rasa (i.e., the extract of the food) begins to circulate. There are seven Dhatus (viz., रसरक्तमांसमेदअस्थिमजाइडुक) in the body, each of them having its own inherent $A g n i$. When the Anna-rasa in its oirocuit comes in contact with the Dhatus, they take from it the necessary ingredients for their growth and assimilate them by means of their Agnis. When the Anna-rasa is made up of materials having the properties of the five elemente in more or less than the required proportions, the Vata, Pitta and Kapha in the Anna-rasa are either inoressed or decreased and such Anna-rasa the seven Dhatus cannot properly assimilate and some portion remains unassimilated. This unassimilated portion of the Anna-rasa now receives the name of $A m z$ and produces derangement in the Doshas, inordinately increasing aome, and deoreasing others, acoording to its composition. The Doshas which are aggravated, if not properly attended to, become will, spread in the body and taking hold of some defnite part produoe disease. This is about cansation of disease through internal agencies. The chief among suoh agencies being $\Delta m a$, disease in general has received the name $\boldsymbol{A}$ maya.

Diseases are also contracted without the Doshas being deranged in the beginning. When any of the five senses are brought in contaot with their objects in an exceessive degree, not at all, or in an extraordinary manner, they (i.e., sensea) themselves beoome diseased, and sometimes oanse disease to the other parts of the body also. The same is the oase with the mind. It is influenced by sudden attacks of grief, fear, joy and such other feelings.

Another external source of disease is the different kinds of harts, resalting in wounds, fractures, eto.

Some diseases are inherited from parents,
Some diseases are caused through diseased or poisonous artioles of food and also by poisonous olimate.

In all these oases of externally oontracting disease, a disease like a woond or fracture is firat generated on acoount of the immediate external oause, bat afterwards, on acoount of that very disease the bodily Doshas may get deranged and oause other diseases.

This in short is the whole Ayurvedic theory of the causation of disease.
Modern Scientific Criticism. -In the first place I woold point out that any appreciable. amount of knowledge of the modern scienoes shoold not be expeoted from Ayurvedio physiciana. Yet, sinoe the question is put, I place my views before the Committee. Aocording to Herbert Spenoer, one of the greatest soientists in England, science is a' systematic and accurate knowledge' of any subject. Acoordingly Ayurved must be acknowledged to be seientific. The ayorvedic worke, such as Charaka, Sushruta, eto., will stand the test of the above definition. System and acourany will be found in every one of them. In testing the accuraoy, we must, of oourse, make allowanoe for want of the modern means such as mioroscopes, etc., during those days.

All the modern sciences take cognizance of matter and do not attach mach value to the spirit, while the Ay arved gives primary importance to the spirit and secondary importance to matter. The modern scientists even go to the length of saying that in the near future they hope to explain life by means of the various prooesses of chemistry and physics. The Ayurved holds that from the time of germination up to the fall development of the whole body, the growth is: due to the presenoe of the spirit and not simply to the chemieal and physical processes. Our theory is 'life begete life'. Dnder these oiroimstances it would not be proper to view the Ayorved from the atandpoint of modern soiences.

We do not know whether the Ayurvedic theory about the causation of disease will stand the test of modern soientifio oritioism. Bat it has been proved by experienoe that the causes, mentioned in Ayurved, of produoing various diseases do produce those partiocular diseases under the required ciroumstanoes. At that time there being no such instruments as are now available to modern scientists, they may not be able to prove by actual demonstration the intermediate prooesses. For all practical purposes they found it sufficient to know the resalt of the varions. causes, no matter what the intermediate processes are.

In Madhava Nidana-one of the most respeoted of Ayurvedic works-we find that the author, while prooeeding on the basis of Tridosha, had, it seems, an idea of the varions systems of the body. The diseases of the intestines, the longs, the kidneys, the brain, the skin and sa on, have been dealt with in separate groups. This arrangement of diseases somewhat coincides with
the nydumatic arrangement of the Weetorn Medical Science. Thin I have mentioned by the way. Bot I hold that the therory of Tridosha, beaides being roasonable, in the mot convenient, may and usefal in the matter of diagnosis and trestment.
(b) निदान (Casse of the disesse), पूर्वरूप (Premonitory oymptoms), रूप (8ymptome of the diseave), सप्रitष (Mode of ite attack, the proportion of derangement of the three Drahen, oto.) and उपच्यय (-dietetics, etc., which subside or aggravate the disease) are the ohiff teete of the Ayorredic aystem of Diagnosis. Every disease must be diagnosed by anbjecting it to enoh af these five tests. In applying these testa Ayorvedio physiciane take the amiotnnce of the five senses and of the information obtained by enquiring of the patient and his attendants.

The Ayurvedio method of treatment of dispases consists in (1) avoiding the canse of the disease, and ( 2 ) administering such medicines, eto., as will bring the deranged Doshne to their proper condition and also connteract the disease itself.

When there was Cholera Epidemic at Parel (Bombay) in 1918, the Decean Volunteer Corpa of which I was then the President, had opened two charitable dispensarice: one Ayorvedio and the other Allopathic. The Allopathic diapensary was in charge of Dr. Madan, w. M. \& a., and the Ayurvedic one was managed by Vaidya Patvardhan. There it was fonnd that the proportion of the patients in the Ayorvedio dispensary was six times as that in the Allopathic dispensary. Not only was the number of patients who visited the Ayurvedic dispensary great, but the percentage of recoveries in the Ayurvedic dispensary was much in excess of that in the Allopathio diapensary.

Again onder the anspicies of the Debt Redemption Society in Bombay, a diapeneary was started in the Servants of India Society's building where Vaidyabhasan Ganesh \&hastri Jobhi ned to dispense Ayorvedic medicines in the morning and Dr. Desai and others veed to dispenis Allopathie medieines in the evening. There also the nomber of patients trented by the Aypurvedie method was far higher than that treated by the Allopathic method and the percentage of recoveries by the former was also in excess of that by the latter.
presents) I hold the view that the Ayorvedio aystem of medicine is more efficacious than the
 sought in the abrordineases. present in the human body.
(11) These three varieties of material bodies or organized molecular maseses or subatances may be called A, B and C respectively or, as the Ayorvedio authors name them, Vatha, Pitta and Kapha, becanse the first term is indicative of motion or moleoolar activity of high order, the second of ohemical or ferment activity and the third of stability or comparative firmneas.

So far for the theory.
Now for its atility in actual practice-
(1) All diseases or pathological conditions are the results of some distarbance in the constitution of the body.
(2) The external impacte of foreign bodies masy otart some pathologioal condition or disease at a point in the human system but its spread and development depend on conetitutional distarbances.
(3) The constitutional disturbance is the result (1) of acoumulation of effete matter in the body (the malas of the Ayurvedic anthors) or the improper fanctioning of the tissue cells of the body (the Dhatus of the Ayurvedic authors).
(4) But both these distarbed conditions of the human body are acoording to the Ayurvedio system the nltimate resalt of the improper supply of the building material either in quantity or quality (the Vikritavastha of the Doshas of Ayurvedic authors).
(5) Henoe in the treatment of every kind of disease the Ayurvedio system directs ite attention mainly to the re-settlement of the disturbed condition of the Doshas.
(6) Any local treatment that may be necessary is only for the relief of the immediate pressing painful symptoms. The ice, the poaltice, the blister, the knife, the oatheter, the trooar or the ayringe may give immediate relief that may be absolntelv necessary but the main attention most be directed towards the removal of the real cause (the Vikritavastha of the Doshas).
(7) The Vikritavastha of the Doshas is to be known from the symptoms observed in the affected body. These are minutely stadied and stated in detail by the Ayurvedio anthors. They divide these into three classes, each of them referring to each of the three Doshas.
(8) A disease may be named according to the anatomical lesion present in it and the knowledge thereof will serve to direct the local treatment of the lesion. Bat along with the lesion there are always some symptoms suggestive of the disturbed Dosha or Doshas the main canse of the disease to which the Ayurvedic authors direot special attention of the physician.
(9) The Doshas are derived direotly from the various articles of food sapplied to the body and the Ayurvedic authors describe each article of food as affecting one or the other Doshs. Hence arises the importance of Pathya-pathya Vichara (the arranging of dietary suitable in the treatment of each disease).

Formerly sach Vaidyse were oentres of medical education. They used to reside at the eapitals of the then existing kingdoms and used to teach a namber of atrdents: They at that time got every assistance from the State and themselves made good the want of effioient Universities. The students coached up by these Vaidyas used to establish themselves at other places where they thought the want of medical relief was the greatest, and in their turn formed distinot centres of education. The Kings and rich people of those days used to give support to these Vaidyas and they otilized that aupport in giving relief to the needy and in preparing new Vaidyas. If that system were revived, I think, it would encourage and improve modioal education and provide adequate medical relief.
Q. 5. No.
Q. 6. Chemistry and physics are not able to analyse properties of many substances. They find no difference in शांखभस्म, मौन्किकभर्म or शी़क्तिकमस्म while Ayurvedic physicians have been successfully using them as different medicines on different diseases. Surgery is already an integral part of Ayurveda. Of the other sciences, $I$ can simply say that they are not a necessity.
Q. 7. The Medical Registration Aet may be extended to Vaidyas, but the Medical Registration Board mast consist solely of Vaidyas. This Board shoold register duly qualified Vaidyas and the Registered Vaidyas must have equal status with the Doctors everywhere. The Medical Registration Act should be so amended as to make. it consistent with the above suggestion.
Q. 8. The cost of Ayorvedic treatment is trifling when compared with that of the Allopathie treatment. The reasons as to why the Allopathic treatment is so costly are that (1) the Dootors undergo throagh a costly training and therefore charge high fees; (2) all their medioines are foreign imports and are monopolized ; so they have to buy them at high prices. The experience doring the last War is oommon to every one. The Doctors had to pay and even now do pay high prices for medicines of daily ase such as quinine, santonine, eto. They are not taught to prepare these medioines themselves and have therefore to buy them at exhorbitant rates; (3) the Doctors do not know and also do not care how to make their treatment suitable to the status of the poor people of India. Wherever they go, withont regard to the patient's status, they advise the use of only milk for food, and such costly things as ioe, ice-bags, Cologne Water, Thermometers, etc. These things are beyond the means of the average lower and middla hasa pennle of India; so, sometimes fearing the expense, they prefer to go with-orkinge of
 authorities, (2) one's own visùi ein private hos.
Q. 1.- Yes, we are ready to deal with both the divisions Gy Ayurveda, vis, Vanaspatya as well as Rasa-shastra.
Q. 2 (a).-The whole universe is made'up of 7 categories, i.e., (1) objects, (2) qualities, (3) actions, (4) universals, (5) particulars, (6) aggregation and (7) non-existence.

Of these, the following 5 are the intimate causes, viz. (1) earth, (2) water, (3) light, (4) air and (5) space. Says Charaka (Sutra Chapter 26), "Each object consists of those 5 primordial elements, and it is either sentient or non-sentient." Every thing else consists of concomitant canses. Therefore is this Creation called Panchabhantika, i.e., made up of five elemental substances. Leaving the last of these, $i$ e., space, which is unmodified and all-pervading, we bere to maltiply the first four by (1) paternal semen, (2) maternal ovam, (3) subtle body and (4) assimilation of external objects, and we get 16 things constitating the living body.

As long as nothing abnormal enters this body, it is said to be in proper health. Of course, in this world we cannot find such an ideal body, because though free from abnormal ailments, each body is subject to what we call natural longings, as hunger, thirst, desire, jealosy, etc.
"Diseases affect the body and mind" Definition-"That is disease, which" affects either the body or the mind or both." According to the maxim "An effect is like its canse", diseases as leprosy, fistula, piles, etc., are due to abnormalities in the four elements oonstituting the semen and the ovum. Diseases like colic, peritonitis, intestinal obstruction, cholera, etc., are due to vitiation in the four constituents of either the mother's assimilation, or one's own, after birth. This vitiation is called prarabdha and is only inferrable. Thas out of four sons of leprous parents, one gets congenital leprosy, another after a few years, the third still later, and the fourth may escape altogether. Thus we cannot attribute the above differences to any other - oruse but prarabdha, which is the most potent cause of the vitiation in the subtle body.

Seasonal Incidence.-Now you might ask why this vitiation enters the elements ; we say, it is due to the excess, deficiency or misapplication of time divided into seasons; for example, a oreature that can thrive at a temperature of $110^{\circ} \mathrm{F}$., would not thrive so well at a temperature below it. This is called Heenayoga. Thus the threefold combination of intellect and the objects of senses (soand, touch, form, taste, smell), affects the twelve constituents of semen, ovum and the things assimilated. Owing to any ohange in their normal functions, the latter beoome modified, and this is what is called disease, while the normal working of time, intellect and objeots of senses is oalled health (Charak, Satra, Chapter I). This is in short oar theory of the oausation -of disease. To give an ordinary instanoe, as long as the materials of a house, as grass, timber, bricks, eto., keep in good condition, the house is said to be strong and darable, but as soon as the materials begin to rot from any cause, it is said to be decaying. This is the state of things to be found everywhere under the Sun.
(4) Thus the body is made up of three clasees of moleoular maceen of matter-(1) one obtained from the food, that constantly entere the body and is prepared to enter into the frrmation of various olasses of cells, that make up the body (i.e., producte of anabolic procesees), (2) the molecalar masess of mattor that form the cell of the varioue tisonee and remain $e 0$ during the period of their functional activity and (8) the molecular massee of matter that are the producte of the functional activity of the tisaue-cells and the disintegration of the oelle themedras (i.e., products of Katabolic processes) and are ready to be thrown out of the body.
(5) The Ayorvedic authors appear to call the first clase an Doshas, the socond olese ae Dhatus and the third class as Malas. They say that the body is made up of theee three olacsee of matter
(6) If the first class is supplied to the body in proper quantity and quality the body remains healthy. Any disturbance in the proper quantity and quality of this material in the body resulte in disease or pathological condition of the body.
(7) These molecular masses or substances of the first olass (Doshas) are present everywhere in the body (vyapi). Their presence in the body in the proper quantity and quality (Ramys Vastia) spells health Any disturbance of this oondition (Vikrits Vartha) spelle disease.
(8) These molecular masses or organized substances of the first olase (Doahas), the Ayurvedic anthors divide broadly into three classes-(a) the highly organised, vary nastable, or so to eay, electrically active bodies that are responsible for the formation of brain, nerve and muscle cells and the exhibition of functions of intelligence, sensation and motion; (b) the highly organized but less unstable and so to say chemically active bodies that ars responaible for the formation of cells of the glandular tissues and the seoretion of all sorts of fermente that oause digestion and assimilation and the reversible process of breaking down of apent up celle and (c) the less highly organized and comparatively more atable bodies that are responsible for the formation of bone and connective tissue cells entering into the structure of the more stable parts of the body.
(9) These are the three kinds of material bodies (Doshas) that are present in all parta of the human frame, that by their presence in proper quantity and quality oause health and that if présentin an abnormal condition cause disease.
(10) This the causes of all diseases or pathological conditions of the human body are to be sought in the abiormalities of these three varieties of material bedips (Doshas) that are alwaya present in the human body.
(11) These three varieties of material bodies or organized molecular masses or substances may be called A, B and C respectively or, as the Ayurvedic authors name them, Vatha, Pitta and Kapha, because the first term is indicative of motion or molecolar activity of high order, the second of chemioal or ferment activity and the third of stability or comparative firmness.

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(10) Each article of Materia-Medioa is also desoribed with reference to its action on one or more of the Doshas and the selection of the drag in the treatment of a disease is made in acoordance with its action on the disturbed dosha.
(11) Thus the diagnosis of diseases, the arrangement of dietary as an important part of their treatment and the selection of drags for their medicinal treatment-all are based on the Tridosha theory which should be verified by experience at the bedside in a large hospital with a sympathetio and searching mind. The experience of the ancient Rishis may thus be added to, -amended or rejected in the light of the new and carefully conducted investigation.

## (14)

## SJT. VAIDYA PANDIT HARI PRAPANNA SHARMA, VAIDYa YADAVJI, TRIKAMJI ACHARYA AND FIFTEEN OTHERS.

That Lord, the remover of Sita's sorrow, And Master of Ayurveda and Soriptures, Does hamble Hariprapanna Sharma, Contemplate daily with delight !

In reply to your questionnare, we beg to state that we are prepared to appear as witnesses before your Committee, provided it inclades gentlemen who are folly conversant with the Oriental systems of Medioine in their original form, and the majority does not consist of those who know merely Allopathy; becanse we believe that the Allopathic and its allied scienoes do not and cannot monopolize all knowledge in this world, as is very often presumed directly or indirectly in this country. The wording of the second question is enough to show that the Committee is not prepared to accept the third instrument of right knowledge, viz., Shabda Pramana as authoritative, but would accept only two, i.e., perception and inference. Both these latter are impossible in the case of a child, who has to depend upon the statements of his elders even in accepting the names of things he has never before heard of. If you take the instance of a grown-up rational young man, has he not to consider as true the words of an -ordinary teacher? Much more so is the case with those great Masters of the past who were neither misguiding the world, nor were themselves migguided. Charaka in his Vimana-Sthana, Chapter V, says, 'A shrewd doctor should learn about diseases by (1) the teaohings of the sathorities, (2) one's own visual evidence, (3) inference.
Q. 1.- Yes, we are ready to deal with both the divisions of Ayurveda, vis., Vanaspatya as well as Rasa-shastra.
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Now wo are very mooh grieved at your worda "How far youp theory or theorien atand the teste of modern cientifo oriticiom": we beg to any very modectly that the moderners! cannot even comprehend our theories of caasation and the modes of trentment. They are ehanging their ground almoet every year by refating the old theoriea, and experimenting, each arcording to his own whims, upon poor oreatures, without any proportionate gain to anybody. Is it thim that deserves the name of science $P$ Onr idea of science in that it ahould be a ctorehoum of inoontrovertible, nniversal knowledge which holde good for all timeo-pnet, preeent and future. Please examine jour ówn pharmnoopocia of a handred yeara ago and yee how vactly it differa from the present one, and is atill ondergoing further mutilationa. In this noienoe, or a mere commpendium of asoertained and unascertained faota 9 The facto well-ascertained in onr anciept books thousands of years ago, have never bepn dispated, and oan never loer their ground, being nothing short of abeolute and oniveral truths.

By enquiring whether our theories can stand the teste of modern moirntifio criticism, yon are perhapa hinting at our Tridosha theory, wrongly translated an the theory of three humours. Well, it is diffioult to grasp its true nature withont working at it for come time, but for yonr edification, we are placing it before you in bare outlines.

As stated above, the five great elemente (Tattras) enter into all creation as intimate cnuses; of these the last one, i.e., space, being universal and unchangeable, is beyond our present consideration. Of the remaining, Vayu being more potent and important than others, retaina the same appellation (in our triad of Doshas) from the root va-to blow, to move, to amell; and ne the causal sense is often understood, it means 'that which eanases to more', or the principle of motion and energy and sensation, of every eell in the body. The second Dusha, vis., pitta is the prineiple of heat, being derived from the third element Agni, as all life depends opon cortain degrees of heat. It comes from the root pa-to protect, or Pach-to cook, to digrest, or Tap-to heat, and its function is to cause the digestion and the consequent assimilation of whatever external matter is taken into this body. Now the third Dosha Bhleshma is derived from ' 8 hlish' - to attach or embrace, and resides in the first two elements, i.e., enrth and water, which attach themselves everywhere, thas cassing the growth of, and sapplying nutrition to, every living eell. The fanctions of Vayu, besides those of imparting movement to every living cell in the body, disoharging the waste and harmful matter in various ways, drying up effete materiap (from Vai to dry up) вo as to make it harmless, eto., also include those of the mitor and aensory systems (from va-to emell, suggest, know), and also of sustaining the fivefold vital air in the body through respiration. All this and more is given in detail in the chapter vatakalakaliys. The terms vata, pitta and ableshma are teohnical, and have countless divisions. They are inferrable from their pecaliar functions, and are non-perceiable.

About the classification and fanctions of tastes, there is nothing in Allopathy. Sushruta devotes a whole chapter ( 42 Satra) to it. After describing how they originate by the motual permatations and combinations of the different elements, he says, 'The sweet, the acid and the paline tastes remove Vata; the sweet, the bitter and the acrid, destroy pitta ; the pungent, the aorid and the bitter sappress shleshma.'
(b) Principles and methods of diagnosis and treatment in Aywreda.-We have to investigate the intimate as well as the accessory canses in diagnosing not only disease, but anything whatsoever. For instance, a detective, who is sent after a boy, has first to inquiro about his parentage, his company and his character, taking into account bis country, society, family and oustoms pecoliar to his abode and the age in which he lives. In short, we have to trace general and particular canses, remote as well as imnediate ones, in order to entablish the etiology of disease.

The following eight facts help us in arriving at a correct diagnosis :-(1) pulse, (2) urine, (3) fæeces, (4) tongue, (5) voice, (6) touch, (7) eye, (8) aight of the body as a whole (Treatise on Pulse by Ravana). All these are included in sight, touch and queationing which are regarded as the important ones by Vagbbatta (8utra, chapter I, 21). In the case of a dumb patient, we have to make nse of Kerala, Ramala, Bwara-shastra, Nashta Jyotisha, eto. After questioning the patient, we have to question his friends, attendants, ete., if he does not convince us, or if he be insane. There is also a fourth means, and it is the supernatural ineight of a Yogin; but this is included in sight; of course, there is a difference between the gross and the subtle means of sight, yet the whole falls under the same category, i.e., ey esight. This last factor is so highly developed by the divine Punarvasu that he derotes a apecial chapter to prognosis, and particularly to the signs and symptoms of approaching death-which is unfortnnately neglected now-a-days (Chapter 12, Indriyasthana).

Diseases may be local or systemic; local, as piles, fistula, pidaka ; aystemic, as those due to vitiation of blood and other metabolic changes.

Diagnasie is subdivided into (1) prodormal symptoms, (2) undeveloped symptoma, (8) aymptoms, (4) favourable and nnfavourable drags, diet, conduct, place and time, (5) appearance of disense.

Treatment.- In case of deficiency in the above mentioned constituents of the body, it choald be replaced by likes (Charaka Ebarira, cbapter 6). 'Fleeh develope by fesh, blood by blood, fat by fat, marrow by marrow, semen by semen, foetus by raw foetus of another animal', eto. In case of overgrowth, it stoold te reduced. Likes include objects, qualities and aotions;
becainse disease mesns vitiation in any of the above three-belonging to the five elements. Qualities are either those of the five elements modified by the internal heat of the body, or of the same residing outside the body. Vayu has saven qualities; rough, cool, light, subtle, moving, clear and hard. Pitta has oily, hot, sharp, fluid, sour, gliding, acrid. Kafa too, has heavy oool, soft, oily, aweet, steady and sticky.

Normal qualities are 20, as'heavy, light, dull, sharp, hot, ete ; they are matually antagonistio, as hot and cold ; so excess of heat should be corrected by proportionate cold and vice-veram

Disesses cansed by deficienoy require natrition, and those oansed by exoess require reduction. Reduction is of three kinds, fasting, digesting and draining off the morbid matter. All these three are to be used in particular stages of fever, as, 'fasting in the initial stages of fever, digestion in the middle, and parging in the end '. Draining inoludes (1) sweating, (2) vomiting (3) purging (4) oil-enema (5) decoction-enema (6) catheterising (7) aspiration with horn (8) leeohes (9) applying the gourd (10) oupping (11) veneseotion, etc. This is called treatment by Reduction. Treatment by natrition includes behaviour proper to every season, etc. If you study our science of life with care, you will wonder how every mode of treatment in it is highly developed. For example, the measure of the contents of the enema for a partioclar patient must be the bladder of an animal in the same stage of life. How minate are the directions for making the eye of the oatheter, etc. Then there are fall details for remedying wrong treatment. Has Allopathy got to show any such detail ? It is our considered opinion that Ayorvedio treatment, if properly followed, that is, according to the roles of our science, can cure chronic and deadly diseases most wonderfully. In the case of aadhya or curable diseases, the results will be cent per cent, while in the case of those that Allopathy believes to be quite incurable, as leprosy, phthisis, eto., our resalts will be 50 per cent provided they have not entered the third stage ; at least 25 per oent results are sure and certain.
(c) For sprue, treatment by Swarnaparpati, Rasaparpati, Panchamritaparpati, etc., for Amaivata, Syonaka-bark, Iaghorasnadi decoction, etc., effect a sure and speedy cure. Amavats is due to the blocking of the serous ducta, and you have but recently learnt that they cean be opened by castor-oil, though mentioned in our books thousands of years ago.

The same is the case with our dechlorination method, which you have learnt but 10 or 15 years back from German doctors (See Sir Pardy Lukis' Indore Lectore, 1913).

Even in Surgery, you have learnt from India, one hundred years ago, the method of okin-grafting by living flaps in Rhino-plasty, etc., whioh is therefore called Indian operation. Dr. W. Carnegie Brown says, "Sprae was nudescribed and unrecognized as a distinct disease fifty years ago "; (Page 3 Edition 1908) while we know. even six varities of sprue for the last several thousand years. The same author while describing entire fruit treatment (Page 133), writes, "The method is, indeed, one of great antiquity, for the use of bael and other fraits in India and the further East, is described in native syatems of medicine which antedate Erropean discovery and conquest by many centuries; while the routine treatment of sprue by a diet conr sisting entirely of fresh fruit, now generally employed by Datah physicians in Java, is based on the methods in vogue daring Hindu ascendanoy in Cambodia and the Eastern Archipelago."

The superiority of Ayorvedic treatment lies in this, that it is not merely curative, but is also preventive in a very wide sense. In fact, the latter ocoupies the first place in every standard work of Ayurveda. It is oalled Swastha-rakshana-vidhi, or the method of preserving the health of a healthy man. There are special chapters, called Ritu-charya, or seasonal behaviour, varying according to the exigenoies of different seasons of the year-particular foods and vegetables are prescribed for partioular months.

Now as regards the treatment of the sick, due to vitiation in different constituents of the five Tattwas, we divide it into (1) canses (2) symptoms and (3) drugs. The last constitute the most important part of our system, yet it must be acoompanied by considerations of the former, two.

The union of the soul with the body consisting of five elements is called a 'Being', and its getting into any sort of pain goes by the name of disease. Disease is divided into tranmatic, physical, mental and natural ; again, into those depending apon (1) one's body (2) deities (3) physical elements (Sushrata, Sutra-Ch. 24). The three doshas are the ohief cause of disease. "Just as all modifications in the universe cannot lie outside the three principles of satra, rajas and tamas; so does every sort of disease inhere in vata, pitta and kafa. The sonl experiences pain either through the body or the mind ; therefore it is divided into bodily and mental; then into (1) extraneons (2) natural (3) congenital. Out of these, the extraneons is due to traoma. The oanses of physical ailments are vata, pitta, kafa, aggregation and inequality. Just as extraneous is considered apart from the bodily and the mental type, so are blood and aggregation supposed to be separate oanses, because all the three failte are equally enraged, the condition cannot be oalled "Inequality".

Similarly, blood receives a separate consideration, becanse of its importance in ciroulation; for instanoe, if a limb is tightly bandaged so as to blook the oiroulation, and if that part is bitten by a serpent, the poison will not pervade the whole body; now, if the limb be ampatated, and then the bandage removed, he will not be poisoned. Or, to take other examples, syphilis, gonorrhoea, leprosy, a mosquito, a rat, a rabid dog or a fox immediately affeet the blood throogh their bites, inoculation, eto.; therafore, blood has been considered as a separate entity. Forthar by
taking larger and larger doses of poisonons drage as opinm and armenio, we can render'our body immone by modifying the blood in a partionarar way. Thie method io oallod "peouliar modiAoation of the body" and in English, it is oalled vaccine and merum therapy, only moently developed in the Weat. For these reasons, blood in put down an a distinct eatity. German are also inoluded in blood. The oauses, though olassified into three by our Logioiane, are raduoed to two in Medicine. They are further sabdivided into (1) union with improper objeote, (2) miodirected intelleot and (3) fruition.

Misuse of time, intellect and objects of senses also form the etiology of diseanes. $A_{1}$ ench of the four elementa is posseased of qualities peouliar to itself, and as there is nothing in the world which is not made up of any of theee four, it goes without esying that every object in the univerw would serve as some sort of drugs.

The three doabas are also named Dhatus and Malas on accoant of their peouliar functiona, as the same man is oalled a Collector, a Magistrate, etc. They are collied doahne from dunh-to vitiate, and Dhatus from dha-to hold, for they hold or sustain the body in their equi-balanood state. They are also called Malas, on acoount of their refuse or waste, as perspiration, exoreta, urine, etc., these names are all relative terma, for our exoreta serves as the intimate cause of the bodies of worms and baoteria, whioh are born in it.

Linga is the extraordinary mark, at the gight of which, we oan infer the exitence of an objeot-possessing that mark, 'as we infer the'presence of fire in a mountain by merely seeing the emoke.

Now wherever these speoial marks are disoovered, we can infer from them, the workinge of either vata, pitta or kafa. Besides the 80 prinoipal diseases caused by Vayn, there are othor innumerable types, but all the same, they can be easily recognized by the pecoliar marke of $V_{a y a}$, i.e., roughness, lightness, coolness, motion, formlossness, eto., and when it affeots the body, its aotions will be also pecrliar to itself, i.e., shaking, boring, stiffness, horripilation, ete., ( 26 in ell). These should be treated by remedies antagonistic to Vayu, as aveet, nour, saline, oily, hot, \&o. Diaphoresis, amearing, oil-enema, errhines, food, inunotions, aprinkling, eto., are ali destructive of Vayu, if used in proper doses and at right times. In disesees peouliar to Vayn, enemata forms the ohief remedy, beeanse it ensily flushes the oolon, and oradioates vaya altogether, just as the root of a tree being eut ite branohes, twigs, and flowers are sure to. perish.

The affeotions due to pitta are 24. Its marks are heat, sharpness, lightness, eto. Its aotions are burning, heat, supporation, swelling, moisture, rotting, redness, do. Ite antidotes are sweet, hitter and acrid tastes and coolness. ' Pargation is the most important item of treatment here.' The affections of Kapha are 20. Its marksare whiteness, coolness, heavinews, aweetness, \&o., and it prodaces similar aotions. It is amenable to treatment by diaphoretios, emetios, errhines, exercise, \&o. Emetios are here the chief form of treatment, and they out Kaphs at ito very root, as the earthen wall of a field when broken, forms an outlet for water, and causen the orops to dry up. All this is given in our standard works.
"The disease most first be diagnosed, then the medicines presoribed, and laatly the physician should thoughtfully proceed to perform the accessory parts of the treatment. He who takes up these latter, without diagnosing the disease, might get success by mere acoident, it he be well-versed in materia medica; but he who diagnoses the particular diseases, is fully oonversant with all the medicines, and knows the proportion of time and place, will command full sucoess, without the least doubt. Here the author deals with the 63 divisions of the three doshas with a corresponding division of diseases as well as medioines, as is olear from the third verse. "He who is conversant with the various manipulations of ' Rasa ' and knows all the divisions of the doshas, will not be puzzled while treating the canses and peouliar marks of the same. (Here follows a long quotation from Susbrata in the Hindi original.) Beings are divided into movable and immovable. The first class comprise those born of a placenta, eggs, perspiration and earth. The second olass comprises oryptogamons plants, trees, oreepers, herbs, ete, of the latter, we can use the bark, flowers, froite, roota, exudation, sap, ete., for medicinal parposes, while of the former, skin, nails, hair, blood, \&ce., are available for medical use. Minerals as gold, silver, pearls, stones, clay, \&oc., are also used as ingredients of medicine.

Various divisions of Time into seasons, months, eto., are potent canges of the development and sappression of the different doshas. This we have called seasonal inoidence of diseacea. This factor is almost neglected in Allopathy, and its great importance is only carually ween by some authors in very recent times,
$A_{s}$ we do not and cannot expect any hearty support or patronage from the Government towards Ayorveda and as we have very little hopes of their ever sinoerely trying to raine the position of the Ayorvedic practitioners in public estimation, it might, at first sight, be thought that this reply would serve no useful parpose ; but as the Committee have, by their very second question, tried to deal a deadly blow at the very foundations of A yurveda, our silence would have been misinterpreted as our inability to prove the perfectly pcientifio nature of some of the fundamental Ayorvedic theories, which have been nn justly ridionled in the past, on accoont of the ignoranoe of the followers of Allopathy. We aball be quite satisfied if the Committee is pleased to pablish this answer in toto without applying the praning knife, for the information of the general publia

13th January 1922.

## De. V. G. DESAI, m.s. (Lond.), BOMBAY.

I beg to forward my views as regards the Indigenous system of Medicine.
Q. 1. Ayprveda.
Q. 2. (a) According to Ayurveda the theory of eansation of disease is based upon physiology -and pathology. Bacteria cause diseases and this is fally recognized. I think the Ayurvedio -theory will stand the tests of modern soientifio oriticisms.
(b) They are the same as any modern Faropeon methods except the latest mioroseopio and oytological methods. The principle of treatment are based upon pathology. For example in acute rheumatism it is considered that there is a foreign poison in the body and that it prevents the natural passages and excretions; therefore they give a pargative to start with, give such food as would not leave mach catabolic residue and give alkalis becanse it is considered that the poison is acid in nature. This diagnosis and treatment is as good as the modern Eroropean ones. I have been in practice for 22 years and I find we can do our work without any forcign syatem of medicine. I have been able to substitute drug for drag in the B.P. except Digitalis, - chloral, Pot Brom and Pot Iodide, and coal tar preparations. Of course quinine stands alone above any comparison.
(c) In chronic cases the Ayorvedic treatment succeeds better, especially in the diseases of the alimentary canal. For example, sulphide of mercary is given by the vaids in duodenal - diarrhoea and it produces very happy results. Europeans do not use this drag.
Q. 3. (a) No.
(b) Useless.

To start with we must have good vaids. The Ayurvedic science is good but the majority - of vaids are fools. Yon will have to teach the vaids.
(c) No.

The manicipality should give grants and have Ayurvedic schools and charitable dispen-- mary.
Q. 4. (a) (1) Yes. I believe in the old apprentice system.
(2) Yes.
(3) Yes, but they must have means to subsist upon. A little grant to teachers will do much good.
(b) To attain your ideal you will have to wait with patience for 25 years. First you will have to produce teachers and then the students. At present there are hardly any teachers I know of. The test of Ayorvedic knowledge is very very severe. I think a man can pass M.B. of any good university in shorter time than a vaid.
Q. 5. Yes, but the present batch of vaids are quacks with few exceptions according to the Ayarvedic standard as given by Charak.

Teach the Ayprvedio and teach the Eioropean methods at thie same time. Pick up what is good in both, follow it, teach it and this open-minded poliey only will sarvive. At present the - vaids are bigoted and don't have knowledge from others. Our foreign mastera think that every-. thing belonging to us is trash. They do not believe that Ayorveda is a science.
Q. 6. Yes. The course of study shonld be for 6 years.
(a) The standard shoold be that of M.B. of any university.
(b) A knowledge of sanskrit is absolutely essential.
(c) Hindi.
Q. 7. There should be registration.
Q. 8. Ayarvedio treatment is ever so much cheaper.
Q. 9. Loss of patriotism. Teach people to have their own. Support home industry.
Q. 10. Of course the State must help. We look up to local boards for more sympathy than. :the State.

## (16)

## Kathiswar.

## Dr. RAVISHANKER GANESH ANJARIA, MANGROL STATE.

## Q. 1. Ayurvedic.

Q. 2. (a) The theory of Ayurveda for the canses of diseases, is, that in normal bodies three -hamours, Vat (wind), Pit (bile) and Kaf (phlegm) are equal in proportion in health, bat, as soon as they become disproportionate, disease is the reanlt, e.g., if wind preponderates, rheumatio (rhee means wind), etc., diseases prevail, if bile preponderates liver diseases come ori, and if phlegm preponderates long diseases prevail. If any two are more than the third, other diseases result and so on. If all the three are irregular or disproportionate, then, delirium resaltes. Mainly apeaking, these homours regulate the system. There are other oircumstances outward, heavenly, atmospheric and other hundred causes same as Allopathic system which cannot be: :pat on paper.

How can Allopathe who have no knowledge of worting of these humoure aritioien them when thoy oannot even understand them $P$ Bat if they otady independently the Ayorredio ayotem, I think they can oonvince themselves that there in much truth in the ayytem. It in quite an independent system, requires stady and then I believe, as a layman oan bo a good Allopath after five years' medical studies and ten yeara' experience so an Ailopath oan underrtand thin ayotam by study though it is more difficult for him than a layman ac the Allopath has to unlearn or disregard certain formed views and principles which he has made his own.
(b) Principles and methods of diagnosis.
(1) Comparing the pulse in different humours, e.g., Vat palee in tortuous and ranning, bile polee is foll and large and jumping, phlegm polse is amall, steady and full.
(2) Examining the urine.
(3) Taking in consideration eertain symptoms peonliar to each humour dinorder.
(4) History of the case, family, eto.
(5) Palpation, examination of phlegm, foeces, eto.

## Principles and met hode of treatment-

(1) By regulating the proportion of hamours by various drage which have these powerr:
(2) Following nature-not doing any harm but simply to treat the oanse.
(3) No poisonons remedy to be resorted to unless absolutely necessary and then in amallest proportions.

Ayurveda means knowledge about giving life, henoe these medicines which oan do no harm' can only be used. Mostly dietitic regularity and abstention from oertain food, artioles, keeping on milk or sueh light liquids only.
(4) Other principles and methods are same as Allopathic syetem.
(c) I think Ayurvedic system treatment is in some chronio cases much better suited thas Allopathic, e.g., in consumption, general debility, fevers, diabetes, eto.

In acote cases also, Ayorvedic system is certainly better than Allopathio if patiente have faith and give long time to the doctor. Allopathic treatment often gives better reaulto in nacata fevers and other diseases but it leaves the patiente weaker than before. In med ine, faith workt. At present, general impression is Allopathic system is progressive science and hence is and ought to be better. While Ayurvedio system is old, non-progressive type and henoe cannot be better and hence no proper trial is given to it from the beginning of such cases.

My impression and experience is that it is like religions truthe. Ayorvedio medieine formule and riews have been pat in books after long long practical experienoe and have been tried for centuries and having been found useful collected in books. They are tried theories and formalm, while Allopathic system is changing and has not yet oome to any defnite form. What is trath in one generation is falsified in another and reappears in third; hence it is in a more or less experimental stage. Demerit of Ayurvedic aystem is that thongh it contains tried and praotical useful principles and methods of treatment yet having been negleoted it has not been well utudied now nor any very neeessary change even owing to changed oonditions of habits, foods, eto., has been made; but on the whole it can stand in good comparison with the Allopathio system also. Allopathic system is as it were a living system while the Ayorvedio is nearly decaying being neglected.

I being an ordinary medical man and having had no opportanity of working in any hospital I cannot give you any definite cases that came onder my treatment when I treated according to Ayarvedic aystem bat I have pat above my general conviotion, impression and experience faithfully after treating a large nomber of eases during my thirty years' practice in medical line.
Q. 3. (a) No. But I have had to work in Laxman Meram Chemical laboratory at Rajkot in Kathiawar. That institution was started by the express wish of the then Politioal Agent Col. Hunter, by the chiefs of Kathiawar in 1898, June ; Mr. H. L. Lee, a medalist Apotheoary and a fellow in one of the Pharmacy schools in England, was appointed Director and I was -selected to be appointed onder him as a native assistant. The institution was started with a view to teach native vaids (practitioners of Ayorvedic system), preparations of English pharmaceatical preparations, extracts, tinctures, tablets, etc., and possible secure knowledge abont Allopathis system also. The other fonction of the ingatitution was to tranalate Ayruvedic medioal works into English for the gaide of the Director. For that parpose one good physician with a knowledge of Sanskrit wais also attached to the institution to translate such works into Gujerati which in torn I had to translate into English. It was a very good institution and had it been allowed to continue longer it would have done lot of good both in teaching natives preparation of Britiah pharmacopceia and also preparing native vaids converaant with Allopathie gystem in a amall way;: as lectures in materia medica, chemistry and botany and pharmacy, formed the part of the course of two years. At the end of the course examination was held and those who passed were given a diploma of practical pharmacists. Two batches passed out and then the institution was closed owing to the narrow-minded chiefs and certain mig-representations by interested persons. I had to work in that institution as a translator of Ayorvedic medical works in Engliah, as a teacher in native medicine and botany according to Allopathio aystem and to trannlate;
orally into Gajarati the leotares given by the Director Mr. H. L. Lee in ohemistry and pharmaoy. Hence most work involved on me which gave me stimulus and opportunity to learn Ayurvedic syetem and compare it with the Allopathic one. Though the institution was abolished before any important work could be done with regard to translation of the Ayorredio works, I continued my stadies of the system and sinoe 1898 I had taken all opportunitios in my medical duties to treat patients first with Allopathic and then with Ayarvedic aystem which gave me some experience of the Ayurvedic system. Though I cannot claim to be an expext in any of the systems but having stadied and practised both for more than thirty years I deem it necessary to pat my views on the subject before the committee which may take them for what they are worth.
(b) (1) I know only one institation at Bombay, the Ayurvedic College conducted by Dr. P. P. Vaidya, l.m. \& s. and have seen some of the passed graduates who, I believe, do much better than quite uneducated native vaids or quacks but having had no personal knowledge of the institution I would advise or rather saggest the committee to send a depatation to visit and inquire and report the working of the institution. If the committee kindly consider me fit to be one of the members of the deputation I offer my services for it on conditions previously settled. I know at Lahore also there is class or college attached with the Anglo-Vedic Dayanand College, but I have no personal knowledge and hence cannot give any information or suggestion.
(2) I believe both Bombay and Lahore are suitable centres for medical education, but in India two centres would not suffice at least two centres necessary for each big province.

I think best way to improve those institations is to visit them, discuss freely with the heads and professors and vaids of those institutions.

Plans and suggestions cannot be made offhand but nothing is impracticable provided proper means are taken by a committee appointed for the purpose.
Q. 4. (a) (1) Yes.
(2) Yes.
(3) Yes.

I share the above view. But as long as I have not inspected any of the existing institutiong, I cannot give my opinion but I think it is possible that the depatation after discussion with the beads, etc., of the institntions can successfully impress on them the neoessity of so doing. I believe their object being to encourage their system they will very willingly co-operate with the depatation.
(b) Nothing is too high if all works conjointly with the aim of furthering the medical soience without being strictly partial to their own adopted system. Magnanimity of mind, open mind and free will to co-operate can do everything.
Q. 5. Yes. In addition, I hope that western system will also gain by such intimate explanation of indigenous systems, as something will be foond whioh will add to their knowledge also.

Nors.-Cironlation of blood was proved by Harvey in the 17th oentriry while refengee to it is made in Ayurvedio worke written some oenturies ago. So alao rhino-plasty, artifioial eyen, artifiaial iron lege are alladed to and even used in those tixiee.

It is only possible when doctors of Western system with a keen desire to acquire insight"in the Ayurvedic system will study the system and when equally vaids of indigenons system will stady with the same aim and zeal the Western system and when both can compare and discuss freely the principles of each system then only real good can be expected.

It may take long time. It may be difficult to find out such aelf-sacrificing persons; it may be more expensive but until that course is taken no good results can be expected.

The Government and Native States as well as well-to-do persons should find monthly soholarships carrying at least his. 100 or even more for at least five or ten years and to be given to the beat graduates or vaids of each system and they should be provided with every facility to treat patients, to visit hospitals, to travel and disonss with best doctors of each system. Patience, close study, competent men and time quite neoessary to reach such a goal.
Q. 6. Yes. Translations of good text-books on physics, chemistry, biology and all medical text-books in other subjects as medicine, pathology, surgery, ete., in various vernacolars and. vice versa. If translations of medical works of indigenous system be made in English then 'western doctors can also study those subjects and hence can favourably criticize the system after. regalarly studying the works with the aid of indigenous system. Vaids, professors and teachers of the institation mast be familiar with both the western and eastern systems to teach thoronghly the students: Such institations can be ideal.

I do not think native vaids (knowing only one system) can prepare vaids that woold satisfy the educated and advanced civilized people though they can prepare native vaids to soit the -masses in tresting ordinary complaints and diseases. Courses for auch institutions must be left to them only.
(a) I' oannot offhand withont consoltation with doctor and vaids of both the systems suggest the standards and their studies though it is practicable after consultation with them.
(b) Same as (a).
(c) Vernannlars: Best professors and teachers must know both the Western and Ayprredis aystems well.
Q. 7. At present no registration is possible but when large number of vaide paee out it may be praoticable. All good vaids are hardly arailable in suoh membere as require regiatration. Pablic mast be left to their own eense of daty to seleot their dootore (vaids). Generally pablie gives preference to doctors of weatern syatem and when that oystem faile they themelvee seleot a good native vaids and cases are not rare where ay arvedio vaide have succesefally treated patiente When surgeons even left hopes. I oannot attribute such enocese to ecoidents only me many oame I myself have come across within thirty years' experience.
(a) Cannot throw any light.
(b) Ditto as (a).
Q. 8. Allopathic treatment is costlier 'than the indigenons though it is more approschable and convenient. It is easy to explain.

A Patient is prescribed say.-Pulse Oinnamomi Co. (I select that preparation beonase it is oommonly used in both the aystems) It cannot oost as maoh if prepared here in India as it would cost when it comes from Earope or England. Ordinary drags on Ayurvedio aystem ood less; it is when Rasayan preparations are made they are costly. On the whole I believe indigenous system costs less. Take for examples tinctures; one lb . of tinotaree ooot (owing to rectified spirit) fire times as mach as fthe same powder of the tinotare ingredienta used by Indigenous system.

Allopathio preparations cost more. Alkaloids are oheaper acoording to weotern aystem am native can hardly prepare them bat they are really required in their aystem.
Q. 9. (a) Idleness on the part of the Vaids for oontinaing their stadies.
(b) Want of encouragement to native vaids and indigenous syatem by kings, shothiae and educated persons.
(c) Easily approachable Western system, hospitals, dispensary, medical graduates, eto.
(d) Prejudice-Anything that is ifollowed by raling powers is and ought to be better whioh led to neglect the indigenous system.
(e) Western medicines are easily obtainable in prepared states in dispensaries, ohemiste shops, etc., while native vaids only presoribe and ask the patients to prepare decootion, powders, etc., which though it has a good aim bat being misunderstood and owing to the trouble to prepare them, patients discontinue the treatment anless driven to it after trying western system.
(f) Slavish habit formed or acquired by the Indians to oonsider everything foreignmade is better and hence neglected or rather disgust of even the commonest and most approved native medical treatment.

Suggestions for revival.-(a) Encouragement of teaching of indigenons medioal system by giving scholarships to stadente, by opening hospitals and dispensaries for treating pationte socording to the system, free institutions like allopathic dispensary and hospitals.
(b) Oonferences and congresses of the free vaids that now exist in India in prinoipal cities in each province and mataal discussions.
(c) Free translation of various ayurvedio medioal books in vernaoulars as all good booke on medicine are in high Sanskrit.
(d) Encouragement of Sanskrit study.
(e) Establishing comparstive dispensaries and hospitals in all provinces on both the Western and Aryan systems under able men.
Q. 10. Same as 9.
(17)

## Central Provinces.

## NOTES BY Dr. T. ${ }^{\text {Kig. BANDE, BUB-ASSISTANT SURGEON, AND }}$ AYURVEDIC PRACTITIONFR, YEOTMAL.

The Ayprredic system of medicine is based on the firm foundation of a highly developed soience in olden times. It is not at all empirical as is supposed by prejudiced minds. Greats works have been written by high thinkers on this science; the suthors have recorded their opinions and based their theories on actual experience.

The science of this system of course differs materially from that of the Weatern system. Both are practically allopathic, but the former system traces the canse of each and every disesse to the want or excess of one or all the 'Thridoshas' as the term goes. Vat, pitta and Kaph are the three doskas according to this system, and the whole structure is built on such a simple theory. Maintenance of harmony in their due proportions of these three doshas means health and reverse of it is ill-health, and so when a disease has to be treated the physicians at once get to the root of the disease by putting their finger on one or the other of these doshas and do not find much difficulty in prescribing. They have not to examine all the organs, such as apleen, liver, eto., in order to find out the real disease as is the case in the western science. This system attaches little weight to the symptoms and the Western method of medication is mostly symptomatio.

The Westerns go from symptoms to the oanse, whereas the orientals find out the oanse easily by the method described above and then go to the symptoms. In short the Western method treate the effects mostly, though there may be some exceptions, whereas the eastern mind treats the root oause primarily. The well-versed physicians are trained in ' nadi pariksha ' or examination by feeling the pulse only; and a physioian arriving at the right and acourate diagnosis by this method of examination is considered an adept. The Westerns have little idea of this 'feeling of the pulse '; they also feel it but not to find out the main and root cause of the disease but to find out the rate and rythem of the pulse.

I do not propose to go further into details of this acience here as it will be perhaps ont of place and unnecessary. I, therefore, leave this subject here by making only one remark that this science can stand any oritical scientific test.

Now coming down into the domain of practice, my experience of the last twenty years or so confirms me in my belief that this system is more efficacious and suitable to the people of this country than the Western one. The results though slow are permanent; the system being' indigenous people have more faith in it and the majority would always prefer the indigenous medication to the foreign one. This may be prejadice bot so it is; and it is only natoral that people should have more faith in this system as it has come down to them from their forefather and since antiquity.

Again I am personally inolined to believe in the theory that is advanced by some thinkers that the herbs and minerals of a plaoe sait physical constitation of the people residing in that particular place. This proposition is accepted by many in the matter of food but then with the .same stretch of analogy it oan be safely applied to mediainal herbs and minerals, etc.

Again as matters stand medioines and their mineral constituents and such other parapharnalia accompanying the western medication is mostly imported from ontside this country and a complaint is often heard from eminent doctors that the medioines have not the same efficacy as they used to have formerly. Their inference naturally is that the medicines that come from foreign countries are sporious and adulterated possessing less of real medication and more of something nseless. This complaint is mostly heard of medicines coming from Japan. Now if the indigenous method and medicines are used much of this trickery is likely to be and can be avoided and stopped. Many physicians will prepare medicines at home with the formalm given in books and will possess genvine and well prepared medicines which of oọarse are boand to produce good results in their torn.

I have outlined above some of my reasons in recommending the Aycurvedio aystem of medication for general use, throughout this whole country, bat I will be failing in my daty in not mentioning the drawbaoks and difficulties as experienced to-day. The foremost of these is the want of surgioal skill in the present-day physicians and their empirical knowledge aboat physiology and other cognate sciences, and therefore unless good physicians are available versed in surgerys, physiology, etc., it will, indeed, be wise not to have it on a universal soale. I know there are doctors, who know the abovementioned sciences and also are versed in ayorvedic; but their number is small. But this defect is not a very serions and can be cared in no time. AngloAyorvedio schools have already been started and more men will be available for service within a period of two or three years.

For the present, Government may be advised to adopt a mixed system and keep anitable stock of medicines and doctora.

Again the science of 'narsing' is not sufficiently developed in ayorved as is done by westerners. This soience also shall have to be stodied and taught.

In conclusion I may say that with the above precantions the Ayorvedic system may be recommended for use hereafter and Government would be thoroaghly justified in adopting this old indigenous method, thereby meeting the wishes of thousands of people of this country and thus conferring a boon on them.
(18)

Cochin.
H. H. SIR RAMA VARMAH, G.O.S.I., G.OI.E., EX-RAJA OF OOOHIN.
Q. 1. Agurveda.
Q. 2. (a) Disturbance of Thridoshas or the three things, vatha, pitha and kabha.

I am not competent to give an opinion on the point.
(b) These are elaborately explained in Astangahridaya and Sangraha.

The treatment is generally very efficient. I have not kept a record of auccesaful ceases which have come to my notice.
(c) I do. I have been long suffering from a bad form of eozema for which I found ayouvedio treatment more succesaful than the English treatment. Another form of the same disease which a cousin of mine was saffering from, yielded only to the Ayprvedio treatment. Some types of fever yielded to that treatment more easily than to the other. For rheamatism, especially of the jointa, ayurvedic treatment is generally more succeassul than English treatment.
Q. 8. (b) No. Medical relief now given is poor for want of fande and inatitutiona. Tharo ie no placo for aystematically teaching ayurredio method of treatment anjwhere in theo parta.
(c) No. Ayorredic sehools must be established in anitable places and arrangemente mnet to made to open vaidyasalas in different places and to give medicines to patiente from them.
Q. 4. (a) (1) Yes.
Q. (2) (3) I do not think it necessary at present.
(b) I do not think that anything, so far as these parts are conoerned, can be done at prosent to achieve that objeot in view. It may therefore be left alone for the present.
Q. 5. Such desire is not present in these parts. A anified aystem is very essentinl. Persone well versed in all the systems may be entrusted with the task. A committee of not lem than five persons may be appointed by the Government. They may be given all facilities to make the neceseary investigations and make a full report suggesting lines for the fulfliment of the idea in view.
Q. 6. The inclusion of the stady of modern scientifio methods in the ourriculum of the studies of indigenons medicine will, I think, greatly improve the quality of the studies. But I ehould like to consalt medical pandits and know their viewe also before proposing the exact oourse of stadies.
Q. 7. This need not be undertaken at once, but may be pat of to some time hence.
Q. 8. Indigenous system is cheaper. The drags and medicines cost less and the fees of the phygiciang are also comparatively mall.
Q. .9. With the gradual spread of $W$ estern method of treatment and the want of State enoouragment to indigenous system, facilities to learn the system rapidly deoreased which led to paucity of qualified men, and difficalties arose to get medical help at proper times and places. By the opening of medical schools and vaidyasalas in different places the indigenous aystem oan be revived.
Q. 10. If all the four agencies co-oparate, the 日ystem oan be fostered.

## M.R.Ry. KERALA VARMA AVARGAL, THE FIRST PRINCE - OF COCHIN, TRIPUNITURA (COCHIN).

## $\because$ Q. 1. Ayorveda,

It consists of eight divisions, viz.-
(1) Treatment of children (bala).
(2) Treatment of the body below the neck (kayam).
(3) Treatment of grahas (epilepsy and similar diseases caused by supernatoral agencies).
(4) Treatment of the apper part of the body (neck and above).
(5) Treatment of the 'Salyas,' i.e., penetration of foreign matter into the aystem, i.e., wounds caused by arrows, stones and small insects entering the system and extraction of arrows, ahota, and stones, eto., which have entered the system.
(6) "Dhamshtra," i.e., treatment of poisons, both animal, and mineral such as suake-bite, rabid dog's bite, scorpion eting, etc.
(7) "Jara," ie., treatment for prevention of deoay of the body due to old age and thres. immune the system from all sorts of diseases.
(8) Treatment for impotency in both males and females.
' Q. 2. (a) All diseases are caused when any one, two or all of the three humours, 'vaths, pitha, and kapham 'are not working in their proper order.
'Vatha' in its general sense is that which 'moves' the system. Its funotions are the oavsing of cheerfulness, respiration, all acctions of the body voluntary and involuntary, all excretions (vegas, fourteen in number, expulaion of urine, freces, eto.), eirculation of blood and sensation of sight, hearing, taste, etc. As these are more or less the functions of the nervous system according to modern physiology we may suppose that vatha corresponds to the nervoas system.
'Pitha' is that which helps digestion and aesimilation in the systern. It effecte all the, ohemioal changes in the system and thereby produces heat in the body. The flaid in the eyo (probably corresponding to the vitreous humour) and the yellowish flaid serum between the skin and the blood cansing colour (Bhrajakam) fall onder this category. Thas we may suppose that 'Pitha' probably corresponds to the secretions such as bile, gastric juice, panereatic juice etc., of modern physiology.
'Kapha' is that which joins, lubricates and moistens the system. This probably correapouds to the connecting tissues and mpens membranes in the aystom.

As these three are generio terms it in rather difficult to find corresponding terms for thesein Wi estern physiology.
(b) There are certain symptoms by which we can onderstand whether 'vatha,?' pitha,' or 'kapha' is not performing its fanctions properlyl; and medicines are presoribed to make the disordered ones perform their funotions systematically. Thus for instance various paina, constipation, shivering, a pecoliar kind of bitter taste, a oharred colour of the akin, etc., are some of the important symptoms of 'vatha.' Extreme heat, yellowish-red colour, inflamation, excessive perspiration, giddiness and intoxicant effect, hot taste, etc., are some of the important symptoms of 'pitha.' Extreme smoothness of skin, feeling of heaviness, soratching sensation, inability to move the limbs freely, swelling, indigestion, paleness, sweet taste, eto., are some of the symptoms of derangement in 'Eapha.'

All these are only general symptoms pervading all the diseases cacised by these three. In the case of special diseases there are special symptoms for which speoial medioines are prescribed.
(c) For rheamatism, insanity, hydrophobia, snake poison, spider poison, rat poison, etc., Ayurvedic treatment, so far as my knowledge goes, has been found more efficacions than the Western method of treatment. Several cases of poison, such as caused by snake, spider, dog, which have been found incurable by western method of treatment have been cured here by ayurvedic treatment. Modesty and fear of wounding the feelings of others prevent me from citing particular evidence. Persons bitten by snakes, rata, spiders, men, rabid doge, etc., invariably go to ayorvedic doctors instead of English doctors and get oured. In some particular cases of asthma and malarial fever ayurvedic treatment has been found more efficacious.
Q. 3. (a) I am only a private practitioner especially in poisons, animal, mineral and vegetable.
(b) The existing institations are inadequate. There is no ward system. Medioines are not properly prepared. Suffioient remuneration is not given with the result that qualified men are not found available for service.

Public achools with adequate staff should be started in important centres ander Goverixment control and qualified men should be appointed in ayorvedic hospitals. The hospitals should be attached to the schools so as to give the stadents facilities for practical training. Ward system should be introduced especially in the case of hydrophobia.
(c) The existing provision for medical relief and education under indigenous lines is insuffioient. In addition to schools and hospitals conducted directly by the Government, there should be many more maintained by Government grants and private contributions.
Q. 4. (a) There is no doubt as to the fact that ideal medical training of indigenous systems requires these three essentials, viz., the placing of students under teachers of first-rate ability; easy access of teachers and students to well-appointed hospitals, laboratories, libraries and botanicsl gardens and sufficient leisure for téachers to pursue independant investigations in their own subjects. So far as our Presidency is concerned, there is no institution where this ideal is attained. It is attainable if proper measures are taken as indicated in the gnswer to question 3 (b).
(b) If it is found too costly to attain the ideal all on à sudden, to begin with, publio schools on $\cdot$ a limited scale with hospitals attaohed to them may be started in important centres and the poor may be treated as in-patients and out-patients and the rich may. be treated on payment
Q. 5. I quite agree with the view of the Caloutta University Commission. Having collected atatistios of partioular diseases treated under both systems in several hospitals, that method which is found more effective may be adopted and the other rejected. Thus in course of time we will have a collection of effective methods which will be a combination of both Eastern and Western:-
Q. 6 (a). I wholly agree with the view. The whole course may be divided into three stages, (1) preliminary course in medicine, surgery, ete., (2) Intermediate course in this above, and (3) advenced course. Provision must also be made for those who wish to speoialize in any one partioular branch of Ayrurveda.
(b) As regards preliminary qualifioation a oandidate seeking admission into an ayarvedio sahool should have a fair knowledge of Sanskrit and English. And this rule may be adhered to ontil all the existing works in English and Sanskrit on medioine and allied sabjects are translated into respective vernaoulars. Regarding the period each stage may oover two, three and four years, respeetively, with one year practioal extra.
(c) For the present, English, Sanskrit and the several vernaculare may be used as media of instruotion antil the works are translated.
Q. 7. It is not advisable to extend medical registration to indigenous systems under the present ciroumstanoes. When our sohools have produced a large nomber of qualified medical men, then only need the question of registration be thought of.
Q. 8. So far as my experience goes, the cost of treatment according to Ayurvedic system is much less than that according to Allopathic system; for in the aypurvedic treatment three kinds of medioines, all equally effective, are prescribed for all diseases saited to the poor, middle and rioh classes of people respectively. The physioian can choose the cheap or the costly kind of mediaine acoording to the peouniary oiroumstances of the patient. Moreover in the Ayurvedie system, only the minimum quantity of medioine is used with a view only to help the working of nature. Thus the oost is less and although the caring according to this system is rather siow, the effect is sure and permanent. Lastly as most of the ayurvedic medioines are herbs, they are obtainable easily and often with no oost.

## Q. 9. The important censes of the deosy of indigenow medioinee in my opiaion are -

(1) The progreas of Buddhism in Indis which striotly forbade the alanghtariag of animala Ior above two centuries, stood in the way anatomical progrese, and consequently there wat no soope for surgical operations and ite development.
(2) The Muhammadan invasion destroyed the important highor works on medioine and sargery: Ample evidence of the existence of such important worls can be had from mention of their names such as Susratha and the Charaka in other surviving Sanakrit worka.
 We have gone throngh the exicting worke bearing theee names; bat thew are not the real worke, for in the firt phee these worth are not even a tenth of the originale. Beoondly in "Aahangehrodaye' it in otated that real 'Buarcthe" deale with only diagnonis and 'Charaks' deale only with treatment, wherea, the exiatint murke undar thete memea deal with both.)
(3) The want of sapport from the State for a long period has muoh to do in osusing the decay of indigenous system.
(4) All the important works on Ayprveds are written in Sanskrit the study of which bas been neglected ever since the Muhammadan conquest. Hence the common people have no facility even now to acquire medical knowledge according to Ayarvedic aystem.

The following are some of the methods that strike me for the improvement of Ayurveda :-
(1) Encouragement of Banskrit atudy.
(2) Translation of the existing worka in Sanskrit into various vernaoulara.
(3) With regard to the lost portions, especially in anatomy, aurgery, ohemistry, eto., they should be supplied by translations of the corresponding works in English into Banskrit or vernaculars.
(4) Starting of sohools and colleges to impart instraction with hospitals attached to them on the lines indicated above.
Q. 10. The Government should start ayorvedio sohools with hospitals attached to them in important centres. Wherever loosl boards or private individuals are willing to atart auch institutions, the State shoold give liberal grants. The work of translating booke from English and Sanskrit, conducting examinations and conferring diplomas may be undertaken by Universities.

## M.R.RY: RAMA VARMA AVARGAL, THE 7TH PRINCE OF OOCHIN.

## Q. 1. I propose to deal with the Ayurvedic system of medicine.

Q. 2. (a) The world is of two states, Sthoola (gross) and Sookshma (gubtle). There is no world transcending these two states. Nor are to be seen in this world substances transoending the virtaes of the sun and moon. There exist in this world only sabstances having in them combined the property of hest which is the quality of the sun and the property of cold which is the quality of the moon. Again, substances formed as they are by the five elements are of various shapes, properties and tastes. By these substances are the varions diseases cansed and destroyed. Also, the three moods of substances according as they are calming, raging or easing (Samana, Kopana, Swastha, Hitha and Bhedena) yield diverse results. And with the expansion in the world of the virtues of the sun and moon of whose constituents fire and water respeotively of the five elements form the major portion, changes of season become inevitable. Then do places follow season, nature follows places, mind follows nature, senses follow mind, objects follow senses, rajas and thamas follow objects, passions follow rajas and thamas, body follows passions and diseases follow body. Though there thus exist a variety of canses of diseases, the important ones are the three homours, wind, bile and phlegm. Oar care therefore shoold be confined to bring the humours to their normal equipoise when they grow abnormal. The normal state of the three humours is called prakrithi (nature) and the abnormal state, vikrithi (change). Mays is called prakrithi when the three qualities sathwa, rajas and thamas are equally balanced. These qualities intermingling in abnormity produce many a vikrithi. In their natural state they lead to unerring deep meditation (nirvikalpa samadhi) of pleasurable form. In the abnormal state they lead to creation, preservation and destruction (Brishti, Sthithi, Eamhara) of painful form to sentient beings. A\& these three qualities are formations of the five elements they have elemental colours and virtues. Whiteness is attribated to Sathwa as it produces bliss, redness to rajas as it produces egotism and passion and blackness to thamas as it produces ignorance. The blisafal asthwa preserves, the egotistic and passionate rajas creates and the ignorant thamas destroys the sentient boingo. Correlative with the comparative balancing of these three qualities will be the gradations of changes in mentality. The virtues, colours and actions of these qualities are slso possessed by their evolved forms, the homours. In nomenolatore only lies the difference between the qualities and homoars. The qualities are called benevolent prinoiples and the hamours malevolent. Whiteness is attributed to phlegm as ovolving from sathwa, redness to bile as ovolving from rajas (rajas and bile are fiery prinoiples), and blackness to wind as evolving from thamas. The
humours also create, preserve and destroy the body. Bile creates atoms which phlegm preservos and wind destroys. Humours, in their changed state, destroy the body and when not so, confer robust health, as the text of Ashtangahridaya goes

## विक्रता विकृता देहं घन्ति ते वर्तयन्ति च ॥

That humonrs, when not in equipoise, cause disease and when in equipoise confer health is troly laid down in the text

## रोगस्ब दोषवैषम्यं दोषसाम्यमरोगता ॥

The Ayurvedio science has particularly desoribed the ways of asoertaining the rise and fall of the homours and the means of bringing them to their normal level. Lest the answer would be lengthened a detailed account of it is not attempted. By way of answer to this question I have only to say that the rage of the hamours is the canse of diseases and that the remedy consists in the use of medicines, etc., as per instructions oontained in the Arya Vaidya Sastra (the Ayorvedic soience of the Aryans).

As I am not conversant with modern science and its methods of experiment, I have nothing to say as to how far these theories will stand the test of modern scientific experiments.
(b) Innumerable are the principles and methods of diagnosis and treatment followed in our system. As anything said in extenso will, $I$ am afraid, lead to indefinite lengths, I would content myself with giving a simple answer to this question. Find out which of the homours have raged and apply remedies using such medicines as have according to the Ayrurvedic aystem tastes, virtues, ripeness and other qualities calculated to calm down the humowr or hnmours in rage.

From my experience of twenty years practice in the Ayurvedic aystem of treatment, I believe that treatment according to this system is very efficacious.
(c) Experience confirms my belief that in the case of Indians, climate, food and other conditions considered, the indigenous systems of treatment are more effioacions than other systems.
Q. 3. (a) By way of answer to this question I have only to state that I had been practising toxicological treatment keeping a dispensary and that circumstances compelling, I have stopped it.
(b) (1) As I do not know what provision has been made for giving medioal reliof in institutions of indigenous systems of medioine, I cannot say anything as to its adequacy.
(2). Institations of indigenous systems are known to exist in certain places. But, I do not consider those places to be suitable as centres in general.
(c) Though institntions for giving medical relief and education on indigenous lines are known to exist in several places, I believe they are not satisfactory. Without Government aid and recognition these institutions cannot grow and be of public utility. My belief is that the present defects can be remedied only if the Government, will, in these days when Sanskrit education exists only in name, in good faith believing that these indigenous systems also are -efficacious, do the needful by establishing Sanskrit schools in every taluk for giving a knowledge of Sanskrit to the native boys, by establishing medioal sohools also for giving eduoation and training to them in indigenons system of medioine and by extending to them Government recognition and encouragement similarly to the students of modern medioal soience, and by appointing them as vydians in hospitals to be established in every taluk on indigenous lines, on salary or grant aystems.
Q. 4. (a) I am of opinion that all that are mentioned under the three sab-heads to this question shonld be done.

I am not aware of the existence, either here or elsewhere, of any institutions of indigenons systems of mediaine where the ideal as per conditions mentioned under the three heads above is attained or is attainable in the near future.
(b) I am not of opinion that even for the present moment this ideal is too high.
Q. 5. I am in agreement with the view of the Caloutta University Oommission.
Q. 6. (a) I have no objection to the adoption of studies on modern lines. But I am of opinion that only those books on Arya Vaidya Sastra, which also deal with physics, biology, eto., should be preseribed as text-books and those Sastras alone need be taught.
(b) The primary qualifications of candidates commencing medioal studies shall be that they shall have read Kavyas and Alankara and Tharka Sastras and shall have a fair knowledge of syntax.

The period of medical study shall be not leas than five years and that of practical training not less than three years.
(c) I am of opinion that Sanskrit alone shall be the medium of instruction.

The oourse of studies shall be as under-
First year-Ashtanga Hridya and Samgraha padham.
second year-Charkika and Surratha.

# Third year-Chinthamani Santram, pulsimeter, pulvo-feeling, emo: preparation of Bindhara ashes, eto. 

Fourth year--8argery.
Fifth year-Practioal stady of labour onses, treatment of ohildren, oto.
Q. 7. (a) I am of opinion that medical registration ahould be extonded to permone holding oertificates of completion of the studies prescribed in the anawer to question 6 and that Government should prohibit ayurvedic physicians not holding suah certifioates from praotiving.
(b) The formation of a Registration Board is neoessary.

As I do not know what the present regalationa are in regard to medicnl registration, I am not in a position to state what ohangee should be made therein.

Q 8. Experience telle me that treatment acoording to indigenous aystems if lemonenty than that according to allopathio aystems.
Q. 9. The first oanse of deoay of indigenous systeme of medioine is want of Governmene co-operation. The seoond is due to the apathy brought aboat by oareless treatment on the part of greedy quacks, of whom there is a legion, as a neessary reault of Goverument anooncern.
Q. 10. I am of opinion that Government aid and recognition are the only conditions which the indigenoas systems of medieine stand in need of to be fostered and promoted by the sereral agencies mentioned in this question.

## MALAYALAM EVIDENCE AS SUMMARISED BY M.R.Ry. RAMA VARMA (THE 9ti PRINCE OF OOCHIN).

M.R.Ry. V: Shangu Warriar Avargal, K. A. Samajam Hospital, Cheruturuth, Shoranwr.

Q. 1. Regarding ayorveda (in general).
Q. 2 (a). Ont of the food taken in, the three substanoes viz., kapha, pitba and vayn, coarae, fine and finer respectively, in nature, and primarily formed, and they are named by the generic term Thridoshas. The food that resalte divides itself into Sara and Kitta Sara, goes to make up the seven Dhathus, Rasas, eto., (Anabolism P). Kitta is thrown out as exeretionn, mala, moothra and sweda-vide "Adow Shadrasamapyamam, eto." The body in thua composed of these three elements, Doshas, Dhathos and Malas. Partioular Dhathua are generally the repositaries of particular Doshas. The normal state of Thridoshas in the body conatitute healthy condition. The reverae of this is disease. Healthy condition means the normal state of thridoshas as applied to particular individuals. The typical healthy body of an adnlt containg. three pounds of kapha and two and a half pounds of pitha-vide "Majja Madow Vasa, eto." The existence of these two and of the finer vayu that exigts in the body in the form of impulse is known by their properties and functions. The chief diseases are oaused by the 62 kinds of variations in the normal proportions of the doshas. The 62 kinds of variations saperimposed apon the displacements from their respective repositories make the number of diseanes. innomerable.

In the causation of mental diseases besides the abnormalities of thridoshas, the two gunac, Rajas and Thamas, have also been considered as factors. In the case of accidents suuch ae wounds and broises abnormality of doshas follows, and then only disease results. Thon, according to the Ayarvedic system, no disease is cansed except by a change in the normal condition of Doshas. If by modern science is meant the Western soience I know little about it; but so far as I could gather from what I have heard about the Allopathio aystem, as the basio prinoiples differ from each other; no comparison is possible.
Q. 2 (b). Diseases are of two kinds nija (natural) and Aganthuka (accidental). Natural diseases are ohiefly cansed by the abnormality of doshas and the acoidental, primarily as a result of the accidenta followed by the abnormality of the doshas, for example raktha galma, raktha pitha, prameha, apasmara, ete., are natural. Vata diseases of apathanaka caused by Marmavedha (injory to vital parts) ete.; poison cases, unmada cansed by extreme emotions, eto., are accidental. These two are again classified as physical and mental.

Among the examples of natural diseases the first three are physical and the last mental. In the latter set the first two are physical and the last mental.

Disesses are diagnosed by the prooesses of nidana, samprapthi, pragrupa, lakshana, sod upasaya, and they are carried out by the methods of Darsana (inspeotion), Sparsana (Palpation, eto. $P$ ) and prasma (questioning). Nidana consista in inquiring into the irregularities of habits, olimatio oonditions, environmente, etc. Samprapthi is the determination of the effect of the above condition on the health of the patient and the probable diseases resulting therefrom. Pragrupa is the early signs and symptoms of the disease. Lekshanas are the signs and the symptoms when the disease is fully established. By these processes the disease is practioally diagnosed. Upasaya is the stage at whioh the treatment is begon and the diagnosis is canflrmed by the effects of the treatment.
 eertain inatramente for the diagnosis of aertain internal dieeages audh as areas, neering aleors, ato.).

Treatments are of two kinds, external and internal. The external consists of abhyanga lepa, etc. The internal is divided into samana and sodhana. Samana consists in giving in of Gritha, thaila, kashaya, etc., and sodhans is by means of emetics and pargatives.
(N.R.-Here the witness takes the ezample of an acuto stage of Karhts to illustrate the vaxious processes of treatment).

Number of cases treated in one year under the ayorveda system at the K. A. Hospitar, Cheraturathi-5,728, besides several private cases for which no acoount is kept.

Percentage of cares-75.
(c) Yes, especially in vata cases.
Q. 3. (a) Chief physician at K. A. Hospital, Cheraturathi.
(b) 1-not satisfactory. 2-oentres suitable-adequate provision must be made for funds and equipment:.
(c) Insufficient. The remedies proposed by K, A. Samajam and Aryavydya Samajam are acceptable.
Q. 4. (a) 1,2 and 3 essential.
(b) The ideal is workable.
Q. 5. As already stated in answer to question 2 (a) I do not think it practicable.
Q. $6(a)$ and (b). The stndy of these subjects may be helpful.
(a) and (b) refer to K. A. Samajam ourrionlom.
(c) In Sanskrit and the local vernaculars.
Q. 7. Registration board essential.
Q. 8. Less costly: Drugs are easily procurable and labpor cheap.
Q. 9. Want of State aid and undue encouragement of Allopathic hospitals.
M.R.Ry. Thrikkovil Ushuthra Warriar Avargal, Palace Physician; Cochin State, Tripunitura.
Q. 1. Regarding Ayurveda.
Q. 2 (a). Indiscriminate use of the 'six Rasằs' adversely affect 'Bhava Padārthăs' (Doshas, Dhathus and Malas) or organs of the body thus cansing diseases. There are no two theories about the causation of disease in Ayarveda.

This theory is capable of being argued out to a logioal conclusion by persons well versed in the science of Ayorveda and is established by experience and examples. This will stand the test of decent scientific investigation and oriticism.
(b) Unoongenial habits produce abnormality in Doshas and the abnormal Doshas cause diseases. The former is the distant and the latter the immediate canse of diseases in general. The examination of these two causes constitutes the first process of diagnosis, that is, Nidenna.
N.B.-Texts are quoted to illuetrate the statements and to show also how the different Doshas are rendered abnormal and what in the general form of the treatment to be followed at different atages of a disease.

Ayurvedie science (indigenous soience of medicines) has been evolved from a stady of the speoial characteristics of the physicial constitation of the people of Bharatha and the medicines presoribed therein are such herbs, bnlbs and roots, etc., as contain the 'aix Rasass' in abondanoe and agreeable to the nature of the food the people of the country is accustomed to. The indigenous system of treatment is therefore easier, more effective and safer. I say this from experience and I am prepared to prove by practical examples the trath of the statement.' I have not kept an account of the cases I have treated. Approximately it may come to 3,000 a year and most of them have been cored.
(c) Yes. The treatment in the cases of Vátha, poison cases, Áma Jwara, Apasmara, ote., are espeoially more efficacious.
Q., 3. (a). I am the Palace Physioian of Oochin State and I teach many stadents free.
(b) No. Well equipped hospitals and oolleges and libraries should be established and scholarships and other enoouragements given to atadents of Ayurveda.
(c) No. State help is necessary as in the oase of Allopathic hospitals and colleges. Aycarvedic education to be given on most efficient and improved lines.
Q. 4. Tes. All these are necessary. The existing institations are not up to the mark, They can be made so with State help.
Q. 5. I do not agree.
Q. 6. Yee. They are necessary. The eight courses of study as mentioned in Aypryeds, suoh as Balya and Salakya, etc., should be followed and each course supplimented by the auxiliary oourses of physiology and pathology, etc. :-
(a) The eight courses may be brought under tbree groups and special titles to those whe pass in each group be given.
(b) Preliminary qualifioation-a thorough knowledge of Sanskrit.
(c) Vernaoular.

## Q. 7. I do not know the existing medioal registration rulom

Q. 8. Medical fee and prices of medicines are mach lower than what they are in the Allopathic gystem.
Q. 9. The langaage difficulty, want of State help, absence of colleges and hospitala and the scaroity of good phyioians as a result of Ayarvedio aystem being not encouraged by the Btate.
Q. 10. (a) Recognition of Ayrvedic system by the Government, founding of free hoapitala, employing genaine physioians, establishment of colleges, creation of mediosl boards, the neoce: sary financial eupport, etc., as already indioated.
(b) The same and to elioit public aympathy and encouragement.
(c) Oonduct of examinstions and granting of diplomae, ots.
(d) To help the Government in oarrying out the echeme to encourage and reauscitate Ayarveda.

## M.R.Ry, RI. T. Divataran Moses Ael., Olloor, Oochin Stats.

Introduction.-I cannot put in writing a hundredth part of what I bave to any. I havo had occasion to compare the Allopathio and Ayurredic systems. The former ohiefly airned at apeedy oure of an apparent disease and the latter at radical oure, though slow, of all the dieorders latent and apparent in connexion with a particular disease (by bringing the entire aystem baok to the normal condition). So the two systems differ in their fundamentals.
Q. 1. Regarding Ayorveda.

Q 2. (a) (Vide statement of the two witnesses above subatance is the ame). Ayurvedic soience will stand any test.
(b) The principle of treatment is the treatment by 'Contraries'. The medioines prow cribed in Ayurveds are generally endowed with suoh property as are in consonanoe with what the intrinsic nature of the system requires and are mostly devoid of the qualities foreign to the eystem. Fever, phthisis, eto., may be cited as examples which, when treated according to thie system, will be radioally cared and will leave no trace of them behind.

I have ample experience of the efficacy of the treatment, bat have no acount kept of the number of cases treated.

The Ayurvedio syatem is more efficacious than the allopathio. If it be true that what are called 'Rua Fever' and 'Time fever' have no remedies scoording to Allopathic system, they have their remedies in Ayprveda.
Q. 3. (a) Member of the Medical Board of the Keraliya Ayarveda Bamajam.
(b) (1) Not satisfactory for want of fands. (2) State help is essential.
(c) No safficient provision. Referenee (B) 1 and 2.
Q. 4. (a) (1), (2), (3). They are absolutely necessary. There is no suoh institution - existing. Possible with State help.
(b) (1) Not too high.
(2) To establish medical institntions under Government control and appoint effioient phyaicians.

## Q. 5. It is not possible to agree with the view of the Caloutts University.

I have never foand an instance where the two systems agree. Difierences in climste and habits of the East and the West are so wide that the two aystems bvolved out of the nataral requirements of the two countries differ to the same extent. And no wonder they do not agree. I have seen cases where allopathic dootors fail to find any disease in a patient when it aotually exists or diseover disorders not actually in existence, because of their lack of adequate knowledge to take the local conditions into account.

A yorvedic stady does not stand in need of any extraneoas help from modern (or Western) soiences. Buoh scientific information is contained in Ayurvedio treatises. But they must be efficiently tanght and such improvements made in thom as ahanged aonditions of time and - oircymastances may demand.

Graded examinations are necessary and diplomas are to be given (not posible to give more details at present).

- (b) A good knowledge of Sanskrit to begin with and about eight yean' atrdy altogether.
(c) Sanskrit and vernaculars.
Q. 7. Registration necessary :-
(a) Registration board composed of competent physicians is necessary.
(b) Suoh ohanges should be made as to soit the objeot in riew (betterment of Ayarvedie syatem and its practice).

8. Ayurvedic treatment is cheaper beeause materisls and labour are sheap.

Questions 9 and 10 are so wide that $I$ am not able to answer then at present.
M.R.Ry. Punnasseri Nampi, Neelakandhasarma Avl., Pattambi, Malabar.
Q. 1. Unani and Sidha are only modifications of Ayurveda.
Q. 2. (a) The body is composed of five elements earth, water, fire, air and ether. Of these air and ether form Vāyu ; fire represents Pitha, and earth and water Kabha,
(b) By Nidana, ete.

Effective. Ayurvedic physicians generally do not keep accopot of cases treated by them:
(c) Yes. Any physioian can prove the truth of this statement.
Q. 3. (a) I have treated many oases. I am the President of the Aryavidya Samajam and have been for nearly twenty years a medical examiner in Travancore and also of the Venkatrapmana dispensary in Madras. Many students have learned medicine under me.
(b) (Vide answers of others).
Q. 4. (a) and (b) (Vide answers of other witnesses above).
Q. 5. There are certain portions in the Allopathic eystem, a knowledge of whioh will be of help to Auyarvedic stadents.
Q. 6. (1) Six years' oourse will do.
(2) Should have passed any of the advance examinations in Sanskrit.
(3) Sanskrit and vernaoular should be the media.
(4) Three examinations biennially. Passed candidates be given the titles of ' $V$ apidys ' and - Upavaidya' and 'Shiromani' respeotively.
(5). The first two examinations to be condueted by the Government and the last by the University.

Q: 7. Registration necessary, eto.
1 Q. 8. Less costily, due to labour and materials being cheap.
Q. 9. (No new information. Vide other answers).
Q. 10. Government should establish colleges and hospitals in each distriot. The local boards should control and supervise them.

General remarks.-Ayurvedic aystem aims at regulating the habita, eradication and provention of recurrence of the diseases. The care, though it may be slow, is sure. This - 日ystem is more suited to the Indian constitation and the Indian climate than the Allopathic.

There are improvements to be effected. This aan be easily done with Government holp.
I am prepared to give oral evidence if necessary.
M.R.Ry. Aryavaidyan M. Krishnan Avl., Assistant Master, Aryavaidyapatasala, Oalicut.

The' sense of the paper is covered by the other papers already translated.

## M.R.Ry. V. Komappan Nayar Avl. (Ayurveda Vaidyan), Chief Physician, Panchayath. Vaidyasala, Parpookara Puducad, Cochin State.

(No information other than what is contained in answers of others given above.)
Q. 2. (b) I have treated 6,346 cases within three yeara, of which 6,237 have been cured.
(His views agree with the general trend of the opinions expressed in the papers translated in detail.)

## M.R.Rx. AYURVEDA VISHARADA K. SHARODY AVL., OLLUB.

Q. 1. I propose to deal with Ayurveda.
Q. 2. (a). The three doshas cause all the diseases.

These three doshas are "V'ata, Pitha and Kapha.' These are the three pillars of the body. When these are in their normal state, they keep the body in a good oondition. The seven 'Dhatus '-' Rasa, Rakta, Mamas, Medas, Aetti, Majha and Bukra', of the body are thè instruments of the Doshas with which they (Doshas) excite the syatem and oreate disease in the body when they get deranged.

These become deranged by varions asuses such as season, olimate, food, water, eto., when in their unnatural stagea.

This theory will stand far superior than the modarn scientific system.
(b) 'Panchalakahanam and Astangapariksha' are the mathods of diagnosis followed in our system. These are Nidanam, Poorverupam; Rupam, Dpasayam and Samprapti, while Aotangapariksha comprises the examinations of ' Nadi, urine, fæoes, tougue, sound, tonch (ohest, abdomen, eto.), eyes and complexion. Theae, when orrafully atudied and noted, holp a - omplote and correct diagnosia.
"Sameodhana and Bamsamana" are the methods of treatment. "8ameodhana" in divided into firo. "Vamanam, Virachanam, Vasti, Birovirekam and Raktamoksham' and Sameamanam into seven 'Pachanam, Deepanam, Kahuth, Thrit, Vyayama, Atapam and marutha.'

All disesses are completely cured either by the process of Samsodhanam or Bamsamanam.
This treatment is more perfeot than what is adopted in the Allopathio ajstem.
(c) Vide answer (b) of question 2.
Q. 3. (a) Practising independently.
(1) No.
(2) No.
(b) In every respect it is deficient.

To remedy the deficienoy there should be colleges, schools, hospitals, dispensaries, musums, laboratories, eto., in all important towns. There should be a completely equipped echool in every distriot centre at the least, and each sahool should be provided with a well-established hospital.
(c) No.--Vide answer to (b) of queation III.
Q. 4. (a)-
(1) $Y_{e s}$
(2) Yes.
(3) Yes.

They are not yet attained, but are attainable in the near fature if every facility is provided immediately.
(b) (1). The science should be made a living one in all its branches.
(2). Vide answer to (b) of question 3.
Q. 5. No. I can never agree with the view of the Calcutta Univeraity Commission beoause the ideals between the East and the West are different and henoe they cannot be amalgamated together.
Q. 6. They are not essential for ns, because we have got ample acientific methode which are far apperior to the modern scientifio system.

As I cannot agree with the view that the curriculom of studies should inolude anatomy, eto., I propose the following scheme for the study of studente corresponding to Allopathic qualifiostions of 'L.M.8.', eto.
(a) Corresponding to L.M.P.four years' coarse.

Laghatrayi (Nighandu of Bhavaprakas, Nidanam of Madhava and' ohikitsa of Chakradatta) Susrata Sarira shoold also be included in the above.
L.M.S. and M.B., five years' oonrse.

Brihatrayi (books of Charaka, Sasruta and Vagbhat). The graduation shall be by distinotion in marks obtained as detailed below.

For L.M.S. 40 to 50 per cent of marks.
For M.B. above 50.
M.D. and M.S. degrees should be by theses.

Those who desire to appear for these examinations should pass the M.B. examination and nondergo a course of five years more. Thus for M.D. and M.S. the course should be ten yeara.
(b) A thorough Natakantam knowledge is essential for the lowest degree.

Knowledge of other Sastras also are preferable for the other degrees.
(c) The language for the lowest is vernaonlar. Sanskrit shoald be made compulsory for the others.
Q. 7. We don't want the medical registration by State, but it should be by indigenone institations.
Q. 8. It is far cheaper than the Allopathio treatment. The reasons are-all can prepare indigenous medicine withont mach expense. The draga to prepare them are arailable everywhere and so cause the cheapness.
Q. 9. Want of State enoorragement.

The State should take immediate financing and encourage what are necessarily required.
Q. 10. This system can be fostered and promoted by establishing hospitals, dispensarien, sohools, laboratories, travelling physicians, eto., acoording to the population in towns and villages,

## (23)

## Mr. A. KRISHNAN NAYAR.

In answering the first two parts of 2 it seems necessary to point out that it is imposoiblo to supply answers in suoh a way as to make the task of scientifio criticism easy. The Ayarvedio system of medicine which'I propose to deal with is based on a chemistry, a physiology, and a botany whioh are unique in the point of view from which these soiences have been approached, as well as in the principles which have been adopted in the ollassification and definition of the faots and phenomena relating to these soiences. This fact preeludes the possibility of rendering in.
modern soientific language the conceptions which the Agurvedic physioians had about the causation of diseases and oonsequently about the symptoms which the diseases manifest or the prinoiples of the treatment followed. It is translation in English without any regard for the connotation of words that has made Ayurvedic theories look ridiculous in the eyes of Western daetors.

Inasmuch as the object of the Committee is to ascertain how far the Indian system is soientific, the only course open to it is to examine the system as a whole after studying its principles of classification, definition, nomenclature, etc. In that case, I make bold to assert that the system would be found to satisfy all the logical requirements that would entitle it to be ranked as a science. Being tedions work and beyond the scope of the questionnaire, it is not attempted kere.

Again, as regards the general efficacy of the treatment adopted in the system; it is not possible to sapply facts and figures. Native physicians, especially private practitioners, very seldom keep a record of their work, seeing that they have no necessity for it. The public, eventhe educated public, believe in its efficacy, as is well. known to the individual members of the Committee. So also evidence as to its greater effieacy in oertain conditions is not easy to establish. For this would require comparison with other systems which involves a sound knowledge of other systems; or it would require experience of having successfully treated a large number of cases pronounced incurable by the votaries of other systems. Although I conld quote some instances of this, it would be no conclusive proof of the inferiority of other systems as it might as well be due to the inferiority of the men who represented those systems.
Q. 3. (a) I am connected with an Ayurvedic medioal shop providing medioal relief to a. limited extent.
(b) (1) No. Firstly, poor people get only prescriptions in these institations, but nomedicines, as free Aycrvedic dispensaries are very rare. Presoriptions often do more harm than good. Wrong drugs might be bought and medicines carelessly prepared and administered, thereby causing injury to the health of the patients as well as to the reputation of the system.
(2) No. Free instruction is imparted, bat without any demonstration. Moreover, al far as Malabar is concerned, experienced physicians commanding wide practice are not at all anxious to endow their disciples with the benefit of their experience.

Institntions as contemplated in question IV alone will remedy these evils.
So far as Malabar is conoerned, the number of institutions is perhaps suffioient, but, as pointed above, the quality of the work done in these institutions is poor.
Q. 4. (a) Such institutions are absolutely necessary. This ideal may soon be attained in the institution started in Trivandrum under the management of M.R.Ry. K. Sankara Menon Avargal, m.A. \& l.t., the talented Ayurvedic Physician in the State employ.
(b) The idead is not too high. To begin with, three, institutions, as nearly approaching the the ideal as possible, may be started-one for Malabar, another for the Tamil districts, and a third for the Andhra desa Please see answer to Qnestion 6.
Q. 5. The desire really exists. Each system may have much to learn from the other. Biat. a unification of the system is, from the nature of things, impossible, at least for many years to come.
Q. 6. A study of modern scientific methads is essential. It will be more convenient and praoticable in the beginning to train in this system the large number of young men who aro tolerably well versed in the indigenous systems. These men may be trained in the praotical side of their systems by experienced physioians of real merit, as well as in Westorn physiology, pathology, and simple surgery, with the vernacular of the respective places as the medium of instruction. An entrance examination to test the knowledge of the candidates for admission in the system of medicine they follow would be all that is neoessary.
Q. 7. This problem may be allowed to wait until the sucoess of the scheme is asuured.
Q. 8. The indigenous systems will be oheaper. Though some drugs are very costly, many of the ordinary diseases require only simple remedies prepared out of herbs and plants available in the locality.
Q. 9. Undue patronage extended to the Allopathio system by the Government; the consequent slur oast on its rival by the votaries of the former as well as by those who ape Western fashions, in utter ignorance of its mexits; the difficulty of obtaining books till very reoently and want of facility for consultation in cases of doubt or diffioulties:. These are some of the causes of decay. These can be remedied as soon as the system gains recognition at the hands of Government.
Q. 10. The indigenous systems can be fostered by the State opening some oentral institutions as contemplated in question 4 and by the looal boards and manicipalities maintaining some hospitals engaging the servioes of the newly trained men, thereby encouraging them. When the soheme has proved a success, and when the merit of the system has been demonstrated to the satiafaction of all who are dubions about it, the corrioulum of studies may be amplified, a rigorous test of efficiency may be institated and Degrees conferred on the sucoessful candidates by the University.

## Trivandram.

## M.R.Ry. K. SANKARA MENON Avaroal, m.a, \& b.t.

## AYURVEDA AND THE TBEORIEA.

Ayarveda is the science of life. It is built upon the theory of Vata. Pitta and Kapha. They are the fundamental principles of all material orention ; thry repreent the three subtele stages of force impregnated matter in the proceses of evolation. Any disturbanoe in the arrangement or condition of these three sabtle stages of atomic essences produces an altered or ahnormnal condition called disease. Health or the normal condition of body is produced br the renult of the harmonions movements of the subtle matter in all the three stages.

Hindu Philosophy is the basis of all Indian knowledge. The fundamental prinoiples of all Tudian soienoes are dealt with at length in Indian Philosophy, for Philosophy is the seienor of all boiences. So, for a correct knowledge of Vata, Pitta and Kapha we have to dive defp intn the Indian philosophy.

According to the Hindu theory of Vedanta, there is the all-pervading apirit which manifants itself into matter and foroe. They are indestruotible and indisanluble. Force nannot exhibit itself without matter and matter capnot exist without spirit. It is olear from this that nverything that exists is endowed with the principle of life. The wonderful discovery of Dr. J. C. Bose that even metals-the supposed inanimate things-show unmistakable sigua of litent life is no news to scholars of Hindu philosophy, wherein the inseparability of matter and force is emphatically declared and logically proved. The Vedantio philosophy expounded by Bankara asserte that all matter is bat the simple manifestation of foroe whioh both merge into the allpervading eternal nnknown called Brahmam. The dualistic school of philosophy adrocates that matter and spirit have co-existence, the latter always working and manifesting itaelf through the former, so that the relation of action and reaction is eternally maintained, which baffise all dissolution or the resolution of one into the other. Since it is not within my province to disonse the merits and demerits of the two achools, I do not wish to enter into any soholastio argumentation of the pros and cons of the theories. It is sufficient for our parpose to say that matter and foroe exist and the manifested oniverse is the result of the all-powerful foree working through the all-pervading matter.

This theory is in perfeot harmony with the modern theory of acience. Hitherto it was considered by soientista that there are a oertain number of elements oreated as such in the universe like Oxygen, Hydrogen, Nitrogen, Sulphur, Copper, Iron, Gold, Silver, etc. The combination of these elements in certain proportions and under certain conditions produce the material objeets in the universe. That was the accepted theory for a very long time, but with the advanoe of science that theory was exploded and it was proved that all objects in the univarse are but the different manifestations of one primodial matter under different conditions and circumstances. This is the modern electron theory acoording to which there is only me substance in the universe which manifests itself in various ways under different conditions. The primordial atomic essenoes, according to this theory, that constitute the manifested univerat, are electrons and protons which, though one and the same matter, show slight variations in regard to the force that pervades them. . The difference in the nature of the force that pervades protons and eleotrons is only a difference of positivity and negativity. Modern acience dopa not prooeed further. Hindu philosophy goes further and says that positivity and negativity of forces are only manifestations of one force which works through matter-both of which again are but the simple manifestations of something unknown and unknowable called Para-Brahmam.

Modern scientists who have been saccessfally carrying on researches into radio-activity have established that the possibilities of atomic energy are infinite. They have been trying to explode the atom of Hydrogen in order to harness its energy. When it is accomplished earth beoomes a paradise or another star. The ancient Hindu Yogis know the seientifio truth by their meditation and worked wondera through their mental force. They created globes and destroved others as we learn from our ancient lore.

In the light of one matter and one force the various manifestations are accounted for by the different conditions and circomstances. Force shows itself the greatest when the matter through which it manifests is the sabtlest. When the matter becomes groser and gmaser the manifentation of foree through it becomes less and less potent. According to the Vaisheahika philowophy mind is nothing but matter-essence in its primordial condition. The spirit that works through mind-the subtlest matter-essence in the human body-is more powerful and endued with greater. potentiality and velocity than other forces which work through groser matter in the system. The rarification of matter is responsible for the exhibition of greater energy is explained by the fact that heat and electricity work through the mediom of ether and something unknown akin to it, whereas soond works through the medium of air. The greatest energy of the universe works through the subtlest of matter.

So there is no matter without foree and no force can work withont matter, so much so that all matter in the nniverse, whether living or apparently dead, is endued with living force more or less patent. Self is immaterial, for force is matter and matter is foree. It is either adaptive or
elective and its course is determined by the potentiality of its past Karma. The present life is only a page of a big volume having many closely written pages before it, making up the sum total of the potentiality of existence. Life is expansion; it is a link that conneets the past realities with the future possibilities.

Mind exerts a great influence on the body, for the spirit that works through the primordial material essence of mind is endowed with great energy. When the mind becomes gross the inflnence which it exerts also will be proportionately less.

The three stages of matter in the process of creation are the subtle, the medium and the gross. The forces that work through them will also be proportionately great, medium and small. For the sake of convenience, I shall roughly classify the materisl atomic essences of matter into one group, the liquefied material essences into another and the solidified atomic essences into a third group. These groups representing the various stages of matter in its essential primordial condition should not be confounded with the three stages of matter as the Westerners understand it. The one force that works through these aforesaid subtle stages accounts for the variations of intensity and potentiality. They give ns a rough idea of Vata, Pitta and Sleshma.

It is to be remembered, in this connection, that there is only one force working in the whole universe and for that fact in the human system too, and the classification of the force under three heads as Vata, Pitta and Kapha mainly represents the properties and qualities of the matter through which each works, so that the manifested force is highly coloured by the medium through which it works. The subtlest matter or the atomic essence forming the different stages is imperoeptible to the eye, and so the possible inference of the derangement or otherwise of the matter in the system is seen through the altered condition of energy which pervades the system. All that san be understood is the nature of the force that works through the matter, and so the attribntes of one are always indisoriminately given to the other, as they are indissoluble and inseparable. The subtlest matter is as much abstract as the all-pervading force. The one is consequently known in terms of the other. The qualities that are attributed to energy or force are really the qualities of matter, which onder different circumstances and conditions vary, giving the life-energy an apparently distorted condition. The energy andergoes no actual change; but the apparent ohange is only due to the real change in the subtle atomic essence. The sabtle and gross atomic essences of matter that compose the human system are mingled, intermingled and alternated according to some definite natural law so as to serve the varions natural purposes and functions of the body with a view to make the life-energy working through it carry on ite functions in perfeot union and harmony. To sum ap, the derangement of some fonetion of the body is due to the derangement or rearrangement of matter in one or more organs of the system.

So the three material forces that govern the system are Vata, Pitta and Sleshma which really help the system to carry on its various funotions.

To make it clearer, I should roughly say that the vital force Vata represents the all-powerful nervous foroe; the equalizing force Pitta represents the all-pervading circulatory fanction; and the oohesive force, Sleshma connotes the all-engrossing musoular energy. These-statements, though not very accurate, are made here to give a tangible form to my thoughts and ideas.

These three material forces serve three distinct functions in the system. Sleshma denotes creation and development; Pitta represents equalization and reparation, and Vata connotes disintegration and dissolation. The fonotions of the three forces being marked and various, they are treated separately and in detail in all standard works on A yurveda.

The causes that lead to the derang ement or rearrangement of Vata, Pitta and Sleshma are various and they are explained in detail in Charaka, Susrutha, Vaghbata, Madhava, etc. These primary causes are what are known as Nidana. These primary causes, when they affect the Doshas and interfere with the Dooshyas, to a slight extent, produce a condition in the system whioh is called Poorva Roopa or incubat fy or premonitory symptom. The real connotation of premonitory symptom goes thus far and no further; bat in practioe the affection of Dooshyams to a greater extent is also taken into account which varies according to the nature of the disease. Vata, Pitta and Sleshma are technically known as Doshas. The Dooshyas are chyle, blood, flesh (including musoles, etc.), adipose tissue, bones, marrow and semen. They are so called because Doshas by their derangement bring about a morbid condition in them. The Doshas affect also the Malas suoh as fæoes, perspiration, etc., which are effete matter. When the Doshas affect the Dooshysas and Malas by bringing about a morbid condition in them then the symptoms (Rupa) peculiar to each disease beoome perceptible and marked. The ways by which the primary causes produce derangement in Doshas which in their tarn affect the Dooshyas and Malas, or in short the modes of orgin, growth and development of a disease, are oalled Samprapthi. The primary causes affect the Doshas then they affect the Dooshyas and Malas which in referenoe to one or more organs produce a disease.

In diagnosing a disease acourately all these points are to be carefully noted-
(1) Dooshya whioh I have explained supra.
(2) Desa, the place where the patient lives; which fact is also of great importance as the physical features and olimatic conditions also exert great influence on the patient.
(3) Bala-physical strength of the patient which enables the dootor to arrive at a correct estimate of the disease.
(4) Kala-(eeason) as onch eemeon exirta great influence on the body, ithorough knomledge of whioh aloo is necessary.
(5) Amala-(the digestive power). It enables the doetor to $\mathbf{A x}$ the dree and mgulate the diet.
(6) Prakriti-(oonstitutional peouliarity) a knowledge of whiok is esontial for the eolection and rejeotion of medioines; ete.
(7) Vayas (age) enables the doctor to form a correct patimate of the prevailing pmodominant Dosha.
(8) Satva (temperament) enables the dootor to correotly retimate the intencity of dinenee.
(9) Satmyam (habit) for drawing onrrect inferences from tha naxious symptoma.
(10) Ahara (food) a knowledge of which helps the doctor to form a correct eatimate of the derangement of Doshas, etc.

The correot estimate of thesc factors tngether with the primary onames that led to the derangement of Doshas and the consequent affections of Dooshyne and Malse together with the origin, growth and development of a particular morbid oondition in reference to one or more organs of the system gives the doctor the full knowledge of the pathological condition which is technically known as diagnosis.

The animal, vegetable and mineral kingdom posesps Doshas either patent or liftent; the judioions administration of one or more of these acoording to the rules of treatment bring ahout order in the deranged Doshas of the patient prodaoing the normal oondition. In some coese the Dooskyas also will have to be restored to their normal condition by careful administration of madioine.

Diseases are broadly classified under two heads. Nija or disenses that are osused by internal conditions ; and Agantuka-those that are onased by external ones.

Agais, for the correot diagnosis and treatment, a disease shonld be viewed from other atand-pointa also-
(1) Hetu Vipareetham,-By carefally stodying the canase of the diepase suoh medioince as will produce the opposite eondition of the actual onase mast be administered. In this oonnection it in to be remembered that there are two kinde of cassee (1) internal, and (2) external ; and the medicine abould be selected with a wiew to bring abont the opposite oondition of one or the other nocording to necessity.
(2) Vyadhi Vipareetham.-By atudying oaretully the nature of the diease through ite oymptoms ; medicines to be administered with a view to produoes the opposite condition of the disease itself.
(3) Heta-Vyadhi Vipuryastham.-In certain diseases, the cause and result will have to be taken both into aocount. In suct onses medinines that will produce the opposite of both eause and effeot will have to be adminstered.

In certain diseases the canse will disappear after producing the disease, and in other cases the canse will be persistent in producing the disease repeatedly. In the former onse disense alone should be treated, while in the latter case both the cause and disease shonld be treated with anch medicines as will produce the opposite condition of both.
(4) Hetu Thadarthakari.--The Thadarthakari medicine is that which producea the same condition. The principle that is involved here is 'Similia Simlibas Curantar'. In this particulay case medicines that will produce the same condition as the oanse iteelf should be administered. Here also the canse may be internal or external.
(5) Vyadhi Thadarthakari.-Medicines that will produce the same oonditions of diseass will have to be administered for its care.
(6) Hetu-V yadhi Thadarthakari.--In this particular case medioines that will produce the same condition of cause and disease are to be adminigtered. The cause and disease are to be separately treated as in 3 supra. The subdivisions (4), (5) and (6) are greater amplifications of the homeopathie principle enunoiated above. This shows that the ancient Hindus have had a ,clear notion of 'Simlia Simlibus Curantur'. Allopathic treatment is more or less confined to subdivision (2), where medicines are given to produce the opposite condition of the disease. The subdivisions (1), (2) and (3) give in detail the principle of treatment acoording to allopathy which is partial and incomplete.
$\mathrm{I}_{t}$ is to be remembered that in all the cases, treatment is not the only method thought of ; diet and exercise or rest are also to be taken into account. This mode of stadying a disease from all its 24 standpoints will give the doctor a clear conoeption of it. This is what is known as U pasayam.

Ayorvedic doctors do not administer medieine directly to exterminate the bacteris causing a certain disease in the homan syatem. All that they aim at is to bring about a normal healthy condition of the body so that the disease-cansing bacteria may find it no longer, poesible to thrive there. The atmosphere is foll of bacteria, but they do not find it poseible to thrive in a human body for the healthy normal oondition does not permit them to do 80 .

Nature tries to make up the deficiency in or to get rid of the excess of Doshas and Dooshyas in the animal kingdona though those heribs that grow around. Judicious use of these sets them right. Man has eyes, but doos not see. Treatment is nothing but adjustment. It is simple. Natare does everything for him ; the vain man thinks too much of his skill and power: and poor patients suffer.

The subjeot of Ayurveda is so vast and deep and the time at my disposal is so short that I have attempted to give hers only the nucleus of my idea about it.

It is not reasonable to think that every phenomenon or truth oan be explained fally in the light of modern partially developed science. When modern science reaches its height of development and glory it will be in complete unison with the Hinda science of antiquity.

There are more things in Ayurveda than are dreamt of in the modern science.
(1) All sections of the Indian public, irrespeotive of caste, creed or colour, take advantageof Ayorvedic system of medicine.
Namboodiri Brahmans of Malabar:
Brahmans.
Nayars.
Eazhavas.
Muhammadans.
Christians.

## Earasians.

Jews.
Pulayas.
Parayas-and all the sab-sections of the above.

Figures of patients from all sections treated in Government or aided A yurvedic institutions: alone in Travancore for the year 1096 M.E. corresponding to 1920-1921.are given below :-
(1) Ayurvedic kospital and dispensary, Trivandrum-
(a) In-patiente, 115.
(b) Ont-patients, 29,151. (of whom 12,129 were men, 8,970 women and 8,002 . ohildren).
(2) The number of persons served by the Ayurveda Pharmacy, Trivandrum; was 16,651.
(3) The total number of patients treated in the grant-in-aid Ayurvedio institutions of the State is $\mathbf{1 7 0 , 6 4 1}$ including 5,190 patients treated for poison cases.

In the Native State of Travancore, the Ayrirveda system of medicine is encouraged by the Government and its benefits are enjoyed by all sections of people from the State and outside. Forther encouragement and development of the system will, it is hoped, give greater facilities for treatment and make it more usefol to suffering humanity.

All sections of the Indian population now resort to the Ayarveda hospitals and dispensaries. A considerable number of Eurasians and others also avail themselves of these institrations. All classes of people repose faith in the system, and given sufficient facilities and proper encoupagement the Ayurvedio system of treatment will be to the benefit of all classes.
Ii. Only by carefol and systematio study the Ayourvedic system can be restored to a high level of recognition. There is a Government A yurvedio college in this State where Ayurveda is taught free and scholarships are also given to deserving candidates.

In the Ayorvedic college at Trivandram all the eight divisions (Ashtangas) are tanght in the course of five years. Besides lessons in theory the atudents are given practical training in the State-maintained Ayprvedic Pharmacy, where all kinds of medicines are prepared ; they pick up practical clinioal study in the State-maintained Ayorveda hospital to which an out-patient department is also attaohed. In addition to this, faciitios are provided for practical identification of medicinal herbs and roots in the Ayarveda Botanical Gardens maintained by the Government.

In Travancore, Cochin and Malabar, Ayarveda was not quite extinct and so it is not impossible to get Vaidyans trained in all these eight branches of stady. There are specialists who are reputed for a thorough knowledge of the ancient works on Hindu medicines and also as suocessful practitioners, such as the famons Ashta-Vaidyans of Kerala. (all-Malabar), 'who from time immemorial have been practising indigenous systems of treatment.

It is highly necessary that students of general oulture (preferably graduates) should be taught the science of Ayarveda for some years so that they may make nse of their intelligence and knowledge for the development of Ayorveda. In Travancore, Cochin and Malabar, graduates. as a role have not taken to the study and practice of Ayurveda; graduates with experience and -knowledge of the modern world will be required as exponents of Ayurveda till the system is. brought to a level of recognition at the hands of the soientific world. The old sohool pondits are unable to expound the principles involved in the system in a modern scientific method. Modern soholars who make an amateur. study of Ayurveda do it so perfunotorily that they are unable to do justice to it. So it is olear that Ayurreda should have proper expounders, for which, as I have stated, some intelligent graduates should be enabled to resort to its stady. The reason why graduates of these parts do not take to it is that even after a course of five years in the Ayorveda oollege their prospects are limited in comparison to the encouragement given to the followers of the Allopathic system.

My first suggestion therefore with regard to the improvement and development of Ayarreda is to help gradaates, for some time, to resort to its stady, holding out at leant oufficient pay which will enable them to live a decent life. And for this, governmenta, private bodies or rioh individusls should take the head.

With regard to the incorporation of coientific discoveriea in Ayurveda, I am of opinion that it is the first duty of every lover of Ayurveds to study it in the proper fashion and undermand the level it attained to in those ancient days. Any incorporation of new ideas into the ayatera now in vogue without knowing the exact condition of Ayurveda at present would prove to bo either harmful or unprofitable. What I mean is many so-called modern incorporationa might have had a place in the ancient science and hasty additions and socretions might be contradictory to the principle of Ayurveda. In Kerala there are many works on Ayurveda that have not yet seen the light of day. They contain much naeful information that is absent in printed worke. An All-India Committee should be appointed for the publioation of all available Ayurvedio works in India as correctly as possible. The works most be thoroughly analyzed with a viow to enunciate the scientific principles underlying the system. As far as I know, the underlying principles of Ayurveda have not been properly and sucoinctly dealt with in any work in Sanskrit. An intelligent student can glean these truths from here and there. Separate works must be written based on these old works with supplementary information from manuscript copies of unpublished works. For convenience I have divided the acience of Ayarveda into five sectione for preparing the syllabus of my college in Trivandrum. They are:-
(1) Sarira Vinjanam.-Anatomy, Physiology and all those items of knowledge regarding homan body as can be collected from old works.
(2) Dravya Vinjanam.-Materia Medica and all the items of knowledge regarding the medicinal herbs, roots, minerals, ores, etc., as can be collected from works on Ayurveda.
(3) Arogya Vinjanam.-Personal hygiene, sanitation, and all the knowledge required for healthy longevity as can be colleoted from A yurvedio works.
(4) Roga Vinjanam.-Pathology, the canse, origin, development and history of various diseases with their symptoms as seen in Ayorveda.
(5) Bhaishagya Vinjanam.-Treatment. The various methods of treating diseases inoluding the administration of medicine, dietetios, exeroise and also surgical operations for auch diseases as may require them with the necessary precantions as seen in Ayurveda.

These five broad divisions embrace all the branches of Ayorveda. The five divisions include subdivisions whioh are not deslt with here lest this should become voluminous.

What I mean is that the science of Ayurveda as it is now known should be thoroughly analyzed and sifted so that an exact knowledge of it may be gained before any additions are made to it.

Before knowing the science in all its exsetness it is not advisable to saggest any incorporation or addition. One has to be exceedingly careful to modify a aystem that has stood the teat of thousands of years. Our ancestors, as far as I have been able to gather from the works on Ayurveda, have very intelligently studied and discussed the sabjects in all its aspects and enanciated valuable rules and principles for our gaidance in the art of treatment.

Malabar is peculiarly fortunate in having had many repated scholars of Ayarveds. They have written many works which give us useful information on the subject. I have collected many such works and hope to publish them one after another. In ove such work I find quotations from many works which are not now extant. So I am strongly of opinion that the level of Ayouveda should be first determined before any attempt at its modification is aeriously thought of. The task that I have saggested is by no means easy. It is one which requires the co-operation of all learned Pundits of India for its successfal termination, and I shall be very glad to render all help, however humble, to carry on this work.
III. It is no exaggeration to say that almost all diseases are successfully combated by Ayurvedic medicines. Allopathic doctors are as a rule called only for surgical help whenever they are absolutely necessary. I do not mean to say that patients do not die under the treatment of Ayurvedic Vaidyans; such diseases are either incurable, wrongly diagnosed, or carelessly treated. What I maintain is that the system has intrinsic merits which conld not be gainsaid. Fever including Typhoid, Rheumatism, Leprosy, Jaundice, Diabetes, Drinary complaints, Asthma, Eye diseases, Throat diseases and a host of other diseases are successfally treated by Ayprvedic Physicians. Typhoid fever, for instance, can be more safely treated under the Ayurvedic system than under the Allopathic ; the special rules of diet, coupled with certain quaths, have worked wonders. Jaundice is cured in one or to days and advanced eases in five days if treated according to Ayorveda. Rheumatism is very succesfully treated in Malabar; prepared oils are very efficacions. Pinda Swadom and Thaila 8wadom are treatments peculiar to Kerala and these have been very suceessful in curing rheumatism. Thuvaraka oil (Choulmungra), administered according to the dictates of Ayorvadic doctors, has cured several cases of Leprosy.

Eka Nayaka roots properly administered is a wonderfal remedy in diabetes; it takes away the sugar in no time, and gives tone to the system. Poison treatment is nowhere more succesoful than in Malabar. Many works on poison treatment are in manuseripts which have not been published. All eye-diseases are very effectively treated according to the Ayurvedic system. Instances may be maltiplied to any extent.
IV. The extent of the development of Ayorveds is not exactly known now. As I have atated a methodical and systematic study of all the published and unpablished works is necessary. to make a correct estimate for which I have invited your attention. The more I learn Ayorveda the more extensive it appears and the large number of manusoript copies I have collected only confirm my opinion. If a body of well-equipped modern scholars would woris uninterraptedly for a period of 25 years by oarefally examining all the pablished and unpublished works in India, then they may be able to find out the exact state of Ayurveda as it was in India.

Before the advent of the Britishers the condition of India was most unsettled. During that period India sustained great loss in all departments of homan knowledge. Many valuable literary works,-works on Fine Arts, Astronomy, Astrology, Mathematics, Medicine, eto., were rathlessly destroyed. Medicine suffered most, many well-known works on Ayurveda like Aswina Samhita, Dhanwamthari Samhita now exist only in name. The loss is indeed great-indispatably great. The practical side of medioine also deteriorated. Physiology and Anatomy were forgotten. Government encouragement grew less and less. Indigenous systems of treatment were thrown overboard. Other systems took the place ; still Ayurveda is able to maintain its own. Even to-day it is no exaggeration to say that 90 per cent of the population of India-resort to treatment according to the indigenous system. Ten per cent alone receive alien kind of medical aid as is olearly stated in the recent discussion in the Madras Legislative Council.

The causes therefore that led to the downfall of Ayorveda are numerous. The first and foremost cause of its downfall is want of patriotism and faith in indigenous systems on the part of Indians. The second cause is want of proper encouragement from either Government, publio bodies or private individuals. Thirdly, the humanitarian side of Indian intellectual life has of late received a materialistic baptism under the influence of Western onlture and oivilization producing at the same time the enevitable result of natural contempt for our literature, science and art and a blind admiration for everything Western. I do not want to underrate the foreign influence and culture; I admit that foreign science and culture has enabled us to study and understand our science, customs, manners and our literature in a better light. The knowledge of the world is nobody's monopoly; it behoves us to make use of the knowledge of the world for our enlightenment, but at the same time it is incombent on us to keep our individuality and safeguard our coultare.

Most of the points relating to this question have been answered in question No. 3.
V. Human Anatomy and Physiology as seen in the works on Ayurveda are not adequate. In the local Ayorveda college an Allopathic doctor (M.B. and B.S.) has been appointed, at my instance, to teach Anatomy and Physiology with practical lessons in Dissection. An elaborate knowledge of Anatomy and Physiology is absolntely necessary for which a stady of Westernmethod of sargery must be resorted to. Indian Materia Medica and Pathology are sufficient for our parpose at present. After a thorough scientific investigation of the present system of preparing medicines it may or may not necessitate the introduction of the extraction of active principles and tinctures. The introduction of this scientific method presupposes a natural saperiority of the system over the old method of preparation which is to be modified or altered if necessary only after methodical investigation of its merits and demerits.

The deficiencies of Ayorveda can be correctly understood only after careful study of all the existing works which, as I remarked, must be studied with religious zeal. Many of the so-called deficiencies may not be real, as most of the unpublished works will remedy the apparent defects. Any inadvertent step taken with our present inadequate knowledge will prove fatal.

Since the conditions of the modern world are quite different from those of good old days, suoh changes as are compatible with the principles enunciated in Ayorveda may be effected in the practice of medicine to suit modern requirements. The subject requires elaboration and, if necessary, I shall send in due course an exhaustive list of books and other necessary information.
VI. A Committee consisting of able and enthusiastic scholars from different parts of India should be formed for the collection and collation of all unpublished works. They should be oarefully corrected and published at the expense of the Committee. It should be more a labour of love. Such a strong committee will naturally serve to restore and uplift Ayurveda to a considerable extent. As I have pointed ont supra separate text-books shonld also be prepared and pablished on the lines suggested.
VII. For the use of the Ayurveda Pharmacy in Trivandrom, crade drags are either par--chased from the bazaar or obtained by depating experienced persons to fetch them direct from the forest areas. Rare herbs are cultivated in the gardens maintained by the State for the use of the Pharmacy.
(a) Standardization is a great necessity. Medicines prepared in Trivandrum, Madras, Calcutta, Delhi, Bombay and other places have different physical properties. Whether the therapentio properties differ in these cases cannot be said as no methodic investigation has been made.

A Committee of physicians of repute and eradition after long experiments will be enabled to arrive at a method of standardization of preparations and fix the therapeutic and lethal doses of druge and preparations. Before that conld be done many of the crude drags are to be identified ; for instance, what is known as Bramhi in Malabar is not exactly the name for it in Calcutta; apart from the properties of herbs dne to climatic conditions in different places, there
in a large degree of divergence of opinion as regarde the genumencea of the herbe themapivee. The herbe and other crude drags should be onoe for all identified and then their docee dould be fired. There are many herbs, roota, eto., that are made nse of in Malabar for treatment thet de not find a place in the Calontta method of treatment and vice verman

Binilarly with regard to other parta of India. All the differeanoes muat be settlod and all those that are made use of in different parts of India chould be inoluded after thomugh investigation.
(b) Te ensure parity and genaineness, reaponsible bodies must alone be entruated with the preparation of Ayurredie druge. Once the preparations are atandardived this diffioulty would vanish.

With regard to otandardization it is now poseible only to fir the physical pmpertiea, as the chemioal properties of prepared medicines vary according to the difference in olimatio condition of regions where they grow. Moreover, it is a very difficult task to analymo ohemically all the Ayorvedic preparations and fix the various constituents that go to make them up. Mort of the physical properties of the preparations can be carefully noted for guidanoe and the doces fixed either from experience or by consulting works on Ayorveda. A thorough investigation of the chemical properties, though desirable, is a serions problen involving money, time and the services of experts. The result of such an investigation oannot aloo be foreseen from a ntilitarian standpoint.
VIII. Ayurvedic medicine is mach cheaper than other arstems of medicine. The figures of the Ayarveda hoapital for two years are given below which will convince anyone of ite comparative cheapness:-

| Number of in-patients treated | 103 | 115 |
| :---: | :---: | :---: |
| Number of out-patients treated ... | 25,161 | 29,151 |
|  | R8. A. P. |  |
| Worth of medicines supplied to the Ayarveda hospital and dispenayy | 7,662 210 | 8,842 1 |
| Average daily cost of dieting per in-patient. | $\begin{aligned} & \text { Chs. } 7, \text { C. } 1 \\ & \text { i.e. (As. } 4 \text { ) } \end{aligned}$ | Chs. 7, C. 4 <br> i.e. (Annas 4 |
| Average daily cost of out-patient... | Anna 1 pies 2. | Anna 1 Pies 8 per 6 doses of medicine. |

Some Ayorvedic preparations are sold at prohibitive prices. They do not really oost no much. For instance, Makaradwaja sold in Caloutta and other places for Ra. 24 par tola, cost only Rs. 3 per tola when prepared in the local Ayorreda Pharmacy. Those physicians who view things from a materialistic commercial point of view cannot be expected to sell medicines at reasonable profit only and to help the progress of Ayorveda.
IX. Hitherto there was no systematic method af teaching Ayorveda. One teacher calle together a number of students and teaches them at his leisure and aeek their help in the preparation of those medicines that he requires for his patienta. After a few years the stodenta pick up his method of treatment and go ont to eke out their own livelihood as physicians. This method had its own advantages and disadvantages.

Now a college for the teaching has been organized in Trivandrum where atadente have to undergo a course of five years. All the existing works have been analyzed in the above given way and tanght in the manner in which instruction is imparted in a modern college of regalar studies. The students are given practical lessons in the Pharmacy, Ayurveda Hospital and Botanical garden as also in the dissection olase.

There is at the end of the High School course (third year) a. Government oxamination, by passing which the title of "Vaidya Sastri" is given to the successful candidates. In the next two years constitating the college course proper, the stadents devote to higher stadies at the end of which course there is another Government examination and the successful candidates are awarded the title of "Vaidya Kalanidhi". With this knowledge both theoretical and practical gained in the course of five years they go out as physicians. Any one of the "Vaidya Kalanidhis" can specialize himself in any branch of Ayurveda, and after a period of two yearm submit a dissertation embodying the resalt of his personal investigation and experience, which, if accepted, will entitle him for the highest qualification of 'Ayarveda Acharya'.

Every year there is the annual examinations, success in which alone will ensure their promotion to the higher classes.

There are also two grant-in-sid High Schools containing the first three clanses alone affliated to the Central Ayorvedic College at Trivandrum.

In this State of Travancore there is an Ayurvedic Department supported and maintained by Government of which my homble self is the head called the Direotor of Ayturveda with a separate establishment, I have organized the whole department and ander me there now exists:-
(i) An Ayorvedic oollege and two Ayurvedic Grant-in-Aid High Schools teaohing etudents for the 'Vaidya Sastri' title examination.
(ii) An Ayurveda Pharmacy for the preparation of medicines of all kinds, for the use of the Government Ayorveda hospital and dispensary and for the general use of the public.
(iii) An Ayurveds hospital and dispensary where in-patients are treated and out-patients are given medicines free of cost.
(iv) An Ayarveda Botanical garden for familiarizing students with all kinds of medicinal herbs and roots, ete.
(v) A number of grant-in-aid Vaidyasalas (81 in number at present, of which nine are exclusively devoted to the treatment of poison cases) scattered throughout the. State for rendering medical aid to the general suffering public.

The whole department is organized and worked as far as possible in the modern method to suit the convenience of the public.

The Governmen't Ayarvedic examinations of the college are all oondnoted nonder my sapervision and guidance. I am directly responsible to the Government for the working of the department. So the whole department is, as it were, centralized in me as the Director of Ayorveda.

This method of organization will, I hope; prove satisfactory as I"speak from personal oxperience.
X. (a) Students will be coming forward to stady Ayturveda, if they are properly encouraged after their course. There are any number of students in Travancore whioh alone necessitated the opening of private Ayorvedic schools by public bodies outside the oapital. Those High Schools receive grants-in-aid from Government.
(b) Qualified and well-read teachers are available to teach the subject. The College turns out a few every year to take up the work of teaohing and practice.
(c) That depends upon the equipment of the Ayprveda hospital. If the Ayorveda hospital is properly maintained and equipped any nomber of in-patients oan be had. The Agurveda college students can be taken to the hospital for their clinical study.

From my experience I should say that the students turned out of the college under the present system of teaching are more competent for their work. With a little more experience they will be very useful members of the society.

The cost of the college varies according to conditions and places. For a successful college, a Pharmacy, a Botanical garden and Ayarveda hospital with a free dispensary ahould be attached to it. Mere college education, i.e., theoretical knowledge of this practical science will not stand them in good stead in after-life. So provision must be made for their practical course in the Pharmacy, Botanical garden, dissection room, and hospital and dispensary. So it is clear that in caloulating the cost of maintaining an Ayurvedic college these essential factors also should be taken into account.

A modest acoount is given below. To conduct a college of five years' course in Agurveda there must be six Professors and an Allopathio doctor to teach Anatomy and Physiology and Dissection.

| Prinoipal | ... | ... | $\ldots$ | Rs. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\ldots$ | 250 per menisem |  |
| Vice Prinoipal | ... | ... | ... | ... | 200 | " |
| First Assistant... | ... | $\cdots$ | ... | ... | 150 | " |
| Three other Assistan | , each |  | $\cdots$ | $\cdots$ | 100 | " |
| Leoturer in Anatom | and P | hysio | gy, etce | $\ldots$ | 150 |  |
| The total comes to | ... | ... | ... | $\cdots$ | 1,050 | " |
| Annual oost ... | $\cdots$ | ** | $\cdots$ | $\cdots$ | 12,600 |  |
| Equipment of the 0 | ege, li | bary |  | $\cdots$ | 1,000 |  |
| Contingencies ... | ... | ... | ... | $\ldots$ | 250 |  |
|  |  |  | Total | ... | 13,850 |  |


| Hoopital |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| One Chief Faidyan |  |  |  |  | 1. |  |
|  | ... | $\ldots$ | ... | ... | 100 per mencem. |  |
| Aseistant Vaidyan | ... | ... | ... | $\cdots$ | 75 n |  |
| Two compounders | ... | ... | ... | ... | 25 aeoh. |  |
| Two warders ... | ... | ... | ... | ... |  |  |
| Two nurues | ... | $\ldots$ | ... | $\ldots$ |  |  |
| Six mexiala | ... | ... | ... | *- | 15 " |  |
|  |  |  | Total anual | $\ldots$ | $\begin{array}{r} 895 \\ \mathbf{4 , 7 4 0} \end{array}$ |  |
|  |  | Contin | gencies | $\ldots$ | +160 |  |
|  |  |  | Total | $\ldots$ | 4,900 |  |
| Medioines for free dis | triba |  | ... | ... | 12,000 |  |
| Hospital in-patiente, | dietin | g, olot | ing, eto. | ... | 1,100 |  |
| Miscellaneous ... | ... | ... | ... | ... | 300 |  |
|  |  |  | Total | ... | 18,300 |  |

There should be a Pharmacy also where medioines prepared can be sent to the hospital for free diatribution to the extent of Rs. 12,000 , and the reat of the prepared drags can lie cold to the pablic at a reasonable gain which will enable the Pharmacy to incur no additional expenditure for the staff. If the sale proves large there will be a steady source of inoome from the Pharmacy.

For the Botanioal garden the annual expenditure will not be more than Rs. 1,000 por year. The total expenditure will be-

|  |  |  |  |  |  |  | Es |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| College | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 18,850 |
| Hospital | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 18,800 |
| Garden | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 1,000 |
|  |  |  |  |  |  | Total | $\ldots$ | $\underline{38,150}$ |

Inclading anforeseen expenditure, etc., it will not be more than Rs. 35,000. In the sbove calculation, the site, building, equipment of hospital and the pay of the controlling anthority are not included. They are to be adjasted according to the local oonditions and oironmstances.

The institations worked on the above model will prove useful and beneficial.
XI. Students who have general culture in the modern sense of the term should alone be admitted. Graduates are preferable, but at least they should be matriculates with thorough grounding in Sanskrit.

General period of stady in the case of ordinary studente shonld be five years during whioh period alone they can be expected to master the acience and practice of Ayorveds: In the ase of graduates with thorough knowledge of Sanskrit, the period may be fixed at three years for a limited period. The medium of instruction should be the vernacular of the country where the college is located.
XII. A general knowledge in Physics, Chemistry, Biology, etc., are easential. It is with this idea that I suggested that the students who go in for the study of Ayurveda should be matriculates or preferably graduates. Power of generalization is obtainable only through general colture, and the absence of such general culture in modern Vaidyans is one of the causes that brought diarepute to the system itself.

Human Anatomy and Physiology should be tanght carefally and acourately and I have therefore included them in the syllabus of stadies.

I most say frankly that I do not like patch-work. If a thing is to be done at all it must be done well. So the students selected should have general knowledge in the modern sense of the term. It is no good allowing half-educated pupils to go to some medical achool, where they will be given a few lessons in such important subjects as Physics, Chemistry, eto. Such ecrapy knowledge obtained by attending a few lectures will not be of any avail. It is absolutely necessary to have scientific training of the mind for any man to shine in any profession. 80,1 am strongly of opinion that students of general culture should alone be admitted.
XIII. The oourse of, stady should be for five years. After three years the diploma examination should be held and the suocessfal oandidates be given an Indian title like 'Vaidya ' Sastri' which should enable them to be the assistants of some senior Physician. So that examination should more or less be corresponding to the L.M.P. of medical schools. After five yearis the stadents should have another diploma examination and the sucoessful candidates should be given a title like that of 'Vaidya Kalanidhi' corresponding to the M.B. \& B.S. standard of the Medioal Oollege. Those candidates who have undergone a complete ocourse of training for five years should be allowed the ohance of specializing themselves in one orl more branches of Agarveda. On the merits of the dissertation submitted by them after original investigation, they may be given a title like the one of 'Ayurveda Acharya' which should be the highest distinction recognized for soholarship in Ayurveda, I think Indian titles are more appropriate for Indian sciences and arts. The title of 'Pranacharya' is to be given to those successful Ayurvedic practitioners of to-day who are unable to appear for any examination, out of deference to their age and merits as a sort of encouragement and appreciation of their talents. It is no use unnecessarily imitating western methods and customs that are alien to Indian calture and tastes.
XIV. Though more than 75 per oent of the Indian popalation get medical aid from Ayurvedic practitioners, yet they are not able to command that respect which their Allopathie brethren have. It is indeed very sad Ayarvedic practitioners are, as a rale, pious and God-fearing and they have not been taught fortonately the ways and means of ondue extraction of money from poor patients. These poor souls are content with what little they get for their meritorious services. Thirdly Indians of any position consider these practitioners as men of inferior position and statas.

Allopathio practitioners are considered superior persons even by educated Indians. The fault lies in our admiration for everything foreign, and contempt for everything Indian. Another point also cannot be left unnotioed. The poor Ayarvedic practitioners have no general education and so they may perhaps be ignorant of the conditions of the modern world. That materially makes them go down in the estimation of the ednoated pablic. The standard of our judgment varies in the two eases; we do not respect and admire an Ayorvedic Dootor for his intrinsic merits in the art of treatment he practises, bot depreciate him for his laok of information and general onltore. In the case of Allopathic Doctors opposite is the oase. Indians respeot them more for their style and general culture than for their professional knowledge.

The fault of the Indians should be remedied by learning to respeot their Hakims, Kavirajo and Vaidyans. The Vaidyans also on their'part should try to be modern men so that they may keep apace with the modern world. All these oan be easily acoomplished by giving anfficient training in Ayurveda to a few graduates, who I am sure will do much for India by commanding respect and doing useful work. It is no use teaching Ayurveda to those students who have no general calture. Such practitioners however oapable they may be, will not be able to hold their own or adyance the cause of Ayorveda. The graduates who take to Ayorveda as a profession will be the pioneers of a future generation 'who will resuscitate Ayorveda and bring it baok to its anoient glory. The other disadvantages now felt are :-
(1) They have no ready-made standardized medicines for use. Flach man prepares his own medioines in his own way. No physician can treat a patient successfully with the medicine prepared by another; when the Vaidyan fails, he attributes the fault to the preparation. In these modern days the relatives of the patient could not afford or find time to prepare the medicines presoribed by the Vaidyan. In faot the Allopathic Doctors have all these advantages. From the All-India Ayarvedio Committee suggested by me standardised Ayrurvedio medioines should be issued at a small profit so that every Indian should be able to purchase and praotise. When this one important defeot is removed all the others will vanish.
XV. Registration of practitioners is not to be thought of now till we have qualified medical practitioners in Ayorveda to satisfy the needs of the pablic. When the College is established and the standardised medioines are issued in large quantities a time will come when there are a good nomber of reliable and the saccessfal Ayorvedic practitioners who are working for the good of the country. Then it is time to put a stop to quacks and sporious medioine-vendors. The fatal step of medical registration will seriously handicap the progress of medicine. Even the so-called quack doctors are no menace to the well-being of society.

The All-India Ayorvedio Committee which consists of members, from all parts of India should recommend to the Committee for the award of titles to such of the sucoessful practitioners as are known to them. Their recommendations mast be given due importanoe and sach Vaidyans must be honoured with titles, medals, etc. This is the only possible course opened for sometime to come.

The Oommittee should consist of honourable men with honourable motives. The titles and medals, etc., given by them will have their own value. If it is found impossible to constitute suah an efficient committee it is a sure sign that it is not yet time for the regeneration of India.
XVI. Governments and Mnnicipalities should open dispensaries and hospitals in important places and towns (municipal areas). They should recognize the Vaidyasalas in their jurisdiotion
and give the Vaidyans subotantial granta-in-aid. There should be come one appointed to inapect their work periodioally and the Vaidyans in their turn should anbmit monthly rotoras to the controlling authority. Rich individuale can do similar belp to promote $\Delta$ yarveda. Univervitire. should affiliate to them such oolleges where Ayarveda, both theorotioal and praotion, is taught and be prepared to give degrees to the successful candidates after the presoribod coureo of atudy. Intermediates and Graduatea in Arta alone should be salected for auch coarses. Prisee and Medals shoold be awarded for researches and discoveries in Ayarveda. Poot-Graduate echolarabips are also to be given for Ayarvedio studiea in the varioun Indian Provincea and 8tatee.

## m.R.Ry. VAYaskara mooss avargal, kottayam.

Q. 1. Ayurveda.
Q. 2. (a) Health is the state of equilibrium of body with reapect to "Vatham, Pitham and Kabham" which are connected respectively with nerves and museles, digeative organs, and raspiratory organs chiefly. Disease is the disturbance of this equilibrium (1) by abnormal weather conditions of cold, heat homidity, (2) by improper use of the sensory organs, (8) by impropriety in word, deed or thought. In this is implied the usual experience of ill-health owing to bed air and water, unsuitable food and physical or mental excitement.

The terms "Vatham, Pitham and Kabham" are often misunderstood. They refer to conditions of body merely and the classification is chiefly useful in determining the properties of the Indian Materia Medica. The theory has stood the test of experience of agea and ourea based on the same have always proved effective. To search for an anatomio basis of the above fundan mental divisions is merely of academic interest.
(b) In our system diseases are divided into-
(1) main heads, (2) subdivisions. With reference to the main head (1) the causation and (2) the symptoms common to each main head are clearly stated. Then each subdivision ia clearly deacribed and treatment for it is given in full detail. When only some of the common symptoms for each main head are observable there is a course of preliminary treatment which, by its effect on the condition of the patient, will clearly show the nature of the partioular ailment. A personal examination of the patient in respect of pulse, tongue, food and bowels, personal habits, general tone of health and the particular complaints, immediatoly reveals the ailment in most cases and the preliminary treatment mentioned above reveala it in othera. When the diseaso is thus spotted out the prescribed treatment effecte the care invariably.

For the past many years our family profession has been the practice of Ayurveda. On an average about 1,000 patients per year have been treated. It is for others to judge of the efficacy of the treatment but it may be added that failare in care has very rarely been our experience.

The efficacy and popularity of Ayorveds mast be olear from the following :-
(1) Ayarvedic doctors are very few and far between and the preparation of Ayorvedio prescriptions are extremely inconvenient at present. On the other hand, Allopathio doctore and hospitals are comparatively near at hand everywhere and ready-made medicine, it is quite easy to procure. Nevertheless, educated rich and respectable patients resorting to our system are, it has been observed, ever on the increase out of proportion to their increase in the general popalation.
(2) There have been many cases in the history of the Ayprvedic practice in our family of persons saffering from ailments declared incurable by eminent Allopathic doctors, resorting to our treatment and getting cured.
(3) There have also been cases-not inconsiderable-of eminent allopathio doctors themselves seeking our aid successfully in ailments in their own cases and in the cases of those dear and near to them.
(c) Undoubtedly.

The Ayarvedic system is suited to the Indian climate which mainly determines the food, dress and the physical conditions in Indis. When diet considered light for permons acoustomed to cold olimate, heavy olothing and the digestion of food like flesh, wheat and fat, is prescribed to persons of different habits in cases of fever, dysentery, etc., cure has become difficult. Our system has been found to be efficacions in such cases. In cases of rhenmatism the Ayurvedio aystem has certainly wonderfal effects and it has been acknowledged by eminent allopathic doctors themselves seeking our aid in such cases.

The Ayarvedic medicines being chiefly derived from herbs and subetances (in their natural state) in which there is the equilibriom of the fondamental principles, as in the healthy homan body but in each of which some particular principal is strong, it appears-as proved by experience-that while oure is always certain when the Ayprvedic preseription is correct any error in proportion in prescription or in diagnosis leads to mach less serions consequences than in allopathic prescriptions.
Q. 3. (a) Persons from various parts have been ooming here for the last good many years to study Ayorveda to get training in the preparation of medioines and to learn treatment of patients at first hand and bave returned as physicians. We are honorary advisers to the Sirkar Ayprvedio Patasala in Trivandrum (Travancore) and many others.
(b) (1) and (2) A list of such institutions is required before this question can be answered. However in view of the fact patients and propective Ayurvedic physicians go here from very distant parts, the impression is inevitable that medical relief and education provided in the existing institutions are quite inadequate.
(c) No.

The remedy is obviously the establishment of (1) some Ayurvedic colleges (near hili stations where the important herbs can be had in plenty) with faotories for distillation, eto. ; (2) Ayorvedic schools, say, one for every district or one million of people; (3.) an Ayurvedic dispensary by the side of every allopathic dispensary or as a branch of it at present. It may be confidently stated that Ayurvedic dispensaries will very often displace allopathio ones which may eventually be closed one after another.
Q. 4. (a)
(1) Yes.
(2) Yes.
(3) Yes.

It is not easy to answer this question satisfactorily without an authorized list of the existing institations. Nevertheless, the development of at least a few of the institutions like the one at Trivandrom into ideal ones ought not to be unattainable in the very near future.
(b) (1) \& (2) If, owing to any reasons, the realization of the ideal-which, of course, means funds-has to be postponed, something oan certainly be done with respect to each institation by way of provision of facilities for; (1) the development of the residential system for the staff and students ; (2) the improvement of libraries and museums ; (3) the accommodation of patients receiving treatments in the dispensaries that must be attaohed to the institation; (4) a thoroagh initial inspection-and then periodical inspections-by a committee of Ayorvedio and other medical experts.
5. We are not in disagreement with the view of the Calcutta University Commission as the basis of Ayurvede is really scientific and not empirical. There is ample evidence that the founders of Ayorveda thoronghly examined every item of the Materia Medioa with respect to"Rasam, Veeram, Vipakam and Prabhavam" singly and in combination; and also stadied carefully the diseases generated by the distorbance of the fundamentala (Vatham, Pitham and Kabham) singly and in combination by external circumstances; and then established a system of treatment which has very successfully atood the test of ages. Forther there is ample soope for experiment on the Ayurvedic Materia Medica on modern lines by dootors versed in both allopathic and Indian eystems with a view to the preparation of new speoifics and the elucidation of the reasons for the efficacy of the existing specifics. Of course, it does not follow. that if there are some Ayorvedie specifios which defy the test of analysis on modern lines bat which however are quite effective in corres, they are not to be given up on the score of non-analysability.

The unified treatment referred to in the query seems possible but advance in the comparative study of all the systems is necessary before the modus operandi can be decided on.
Q. 6. Yes. Surgery, Anatomy and Pathology àre subjects in the Indian system already.
(a) We should like to see a detailed gyllabus of the examinations referred to before preparing the syllabus required.
(b) Further this would be better done in sub-committee.
(c) Books on Indian medicine are now in Sanskrit some knowledge of which is essentiak, before the system can be atudied. Indian vernaculars may be employed as media of instruction. A colloquial knowledge of English will be of use.
Q. 7. The registration is essential. Every licensed practitioner must be required to keep a register of patients under his treatment with particulars about the diagnosis, presoriptions and result of the treatment.
(a) A Registration Board of a few prominent persons of ability in the Indian systems and a Secretary-preferably an Indian L.M.S. or M.B.-may be nominated.
(b) We ahould like to have a copy of the existing legislation before giving an opinion.
Q. 8. The indigenous system of treatment mast be less costly. The herbs and other requisites for: the preparation of medicines oan be had looally in plenty. Their preparation in wellorganized vaidya salas or in some oases by the patients themselves in accordance with preseriptiona must be oheaper than the purohase of Allopathio medicines prepared in foreign parts and sold in shops.
Q. 9. The following are among the osuses of the deoline of the indigenous aratems:-
(1) Owing to foreign invasions of India at different times and the conequent inecourity of person and property and the inevitable indigenoe, people had to flee to different parte leaving their booka behind and coold hardly find the neopesary time and oonvenievoe for parsuit of knowledges for ite own sake. That the indigeons sybtem iteelf did not entirely die out copecially in $\begin{gathered}\text { inew of the different nnfortanate influences to which it was eubjeoted on different cocomiona }\end{gathered}$ must be proof positive of its worth.
(2) For an ordinary proficiency in Ayarveda at least five reari' training is omential and what a man is able to earn after this training is hardly sufficient to keep him alive and thero it nobody to give him any appointment. The aame amount of training in the Allopathio aystam secures a pereon an attractivo Government appointment.
(3) There is hardly any facility at present to secare a training in Ayurveda. While the Government maintains a highly expensive Medical College and other medioal institutiona for the Allopathic aystem, no such college or institution is either maintained or even aided by the anme agency.
(4) $A_{s}$ already mentioned with reference to question (2) (b) the difficnity in obtaining -ready-made Ayurvedio medicines at present and the natural human deaire to obtain immediato relief of some kind in auffering drive people from the Indian aystems to the allopathio in whioh hospitals and doctors with ready-made medioines purohneed for them by Government are ready to hand.

How the indigenous system can be revived is shown in the answers to question 10.
Q. 10. (a) The State must maintain an ideal Ayurvedic College of ite own with an Ayurvedio branch in the General Hospital maintained by it and a faotory for manofacturing Ayarvedio medicines in a large soole. Also Ayurvedio sohools must be opened in important oentrea. Aid must also be given to auoh institations. Instractions must be given to maintain an Ayurvedio branch in every hospital or dispensary.

At present the propagation of the Indian aystems of Medicine is chiefly done by oertain tamilies with Indian mediciae as their family profession. A list of auch must be prepared and they may be given whatever aid they may require in enlarging the scope of their work.
(b) The looal boards may meet the cost for the Ay urvedis branoh of each of their houpitala and dispensaries and open Ayurvedio sohools and medicine factories in a amaller coale and aid institutions founded for similar porposes.
(c) The Univereities may establish degrees and diplomas in Indian medioine and a obair. for research in the same and harmonising the varions systems of anedioine.
(d) Private agencies may be encouraged to found institutions on lines similar to the above.

## Ceylon.

(26)

## M.R.Rx. AYURVEDACHARYA B. L. SARNELIS SILVA AvaBqai, COLOMBO.

## Q. 1. I propose to deal with Indigenous system of medicine oalled Ayurveda.

Q. 2. (a) According to the Ayarvedic system of medioine the caasation of every disease is due to the tridosha ( 1 ), distarbances or disorders of the three bamours of the body-bile, phlegm and wind). These disorders are the result of one's failure to live so as to preserve health or of one's having taken indigestible food, eto. (2). These three humours known as wind, bile and phlegm are identical with the elements, air, fire and water present in the body (8). A disproportion in their relative strength or their corruption causes diseases. Just as when a little water in brought in contact with a large fire, the water loses ite nataral state and the fire growe in intensity, so bile which is the element of heat in the body grows to an excess, and at the same time spoils or dries up the phlegm or the water in the body; or in other words, both bile and phlegm assume an unnatural condition. This fact may be clearly explained by the aseociation of the elements fire, water and wind. The same three elemente are the chiof agenta in the formation and preservation of the body (4). Viewed from that point too, it should be considered that a disturbanee or disorder in the three humours of the body is the cansation of disease.
(b) The disorder or disturbance of the three hamours of the body having been examined in general, according to the five logical methods-Nidana, Purvarupa, Rapa, Upasaya and Samprapti-the disease can be diagnosed acourately by an examination of the patient's habito and body. The system of treatment tanght in Ayorveda is the preseribing of medioines whose property is suffioiently efficacions in arresting and removing diseases oansed by a disorder in the humours of the body or by any change in the strength or natural fanctions of the body, as the resalt of such disorder. If any illness is caused by an excess of cold in the body, it must be laid down as due to a disturbance of wind (vata) or phlegm (kapha) in the body. In such a case it will be necessary to adopt measures to remove the cold and neutralise the effieot of the vate and kapha and therefore the pationt mast be kept warm and the medicines prescribed must heve the property of warmth (5). This is the ordinary course of treatment; exceptional cases will
present no difficulty. In Ceylon under the patronage of the Local Government, Western Medical Science is receiving every encouragement for its progress and extension, by the establishment of hospitals in towns and dispensaries in nearly all the principal villages; yet it mast be observed that there are still very large numbers of people here who obtain relief from the Indigen ans system "of treatment. From the Annual Report of the Foster Robinson Free Dispensary (altogether a private venture), it appears that 23,340 patients received treatment from there in 1920. (6) There are, besides many Ayurvedic Physicians in all parts of Ceylon wha attend to patients in their own respective stations. In my own private Medical Hall, "Jiwaraksha Bhysajja-Salawa" on an average 300 persons are attended to every month. Therefore, there is reason to believe that the number of people receiving medioal relief according to the Indigenous system is gradually increasing in Coylon.
(c) Therefore I am, of opinion that, as stated above, the practice of medicine and pathology in the Indigenons system are very much superior to those in the other systems. It is clear that in no other system of treatment except Ayorveda is to be found that method of diagnosing a disease by the logical application of the fire process, Nidana, Purvarupa Rapa, Upasaya and Samprapti. According to the opinion of some medical authorities diseases are caused by germs (a new theory), and by the Vikurti state of the organs of the body, but it must be observed that the germs on the body in a state of disease as well as the Vikurti condition are due to the disease. Our firm opinion is that a disease is not the result of the presence of germs or of the Vikurti condition. If germs are present or Vikurti manifests itself; a prior canse for their presence most be sought, and that is found in Dosha-Kapa. For example it is owing to the tree that the frait grows, the former being the cause and the latter the result, and not vioe veras. It may be that the tree is due to the five great elements (Bhuta) or it may spring from a roat or branoh and since a fruit is a part or member of the tree, there can be no fruit without-the tree The same rule holds good with regard to the presence of germs. Also it is to be observed that no other system of treatment can compare with the Ayurveda System, and my awn experience of 25 years has confirmed me in the belief that in the treatment of Atisara, Grahani, Prew ahika, Pakshaghita, Rakthapitta, Asrugdara, Vatarakta, Sannipata, Visuchika, ete.-neither the mode of treatment in other systems or their medicines are so adequate as the treatment and medicines of the Ayorvedic system.
Q. 3. (a) I am a member of the Nikhila Bharati Ayurveda Maha Mandala in India, and a superintendent of the Board of Ayurveda Viddaya Pithe for Ceylon.
(b) The existing institations of Indigenous systems are unsatisfactory from the standpoint of adequacy of medical relief provided, due to the want of necessary things and of state of public help.
(2) They are also unsatisfactory dá being pnsuitable as sentres of medical education.

The existing arrangements seem very deficient with respect to the following:-
Surgery (theoretical and practioal); anatomy, knowledge of the properties of many medicines and drags, compounding of medicines, systematic medical education. To remedy these defects I would propose the establishment of a fully equipped A yarvedio medical sohool in which surgery (theoretical and practical-) should be taught, oultivation of medicinal plants and opening of such gardens for the use of Ayurvedic students. These are matters in my opinion that shoald be undertaken by the Looal Gowernment.
(c) For anawer see above.
Q. 4. (a) I consider that the ideal medical training of Indigenous systems of medioines requires-
(1) That the students should be placed under the personal gaidance, of teachers of first rate ability and of recognized standing in their subjecta ;
(2) That teachers and strdents alike should have access to well appointed hospitals, laboratories, libraries and museums ;
(3) That the teachers should have sufficient leisure to be able to persue independent investigations in their own subjects.

It may be said that this ideal has to some extent been realised in the Madras Presidenoy and some other parts of India by educational efforts of societies and of individuals. As I have visited some of those plaoes in my travels in India, I regret that I.am onable to say that those places fally answer the parpose. In my opinion institutions mach superior to the existing ones must be established if this high ideal is to be attained.
(b) I am not prepared to say that the profioienoy at present attained in Aycurvedio Medioal Soience is of very high standard.
(1) If this Ayurvedic medical seience is made complete and established in all its parts, it will be found sufficient for all requirements without oalling in the aid of any other system.
(2) The ides to be worked ont in the immediate present is ta eatablish a Medieal Sohool with the help of the Government and when stadenta have, attained profioiency they shoald be authorized to follow the profession in their respective lines.
Q. 5. I do not agree with the view of the Caloutta University Commission. The portion of time in the life of a man that is devoted to learning is hardly sufficient for a complete stady of the different parts of soience in Ayurveda. In the event of the nuion of towe systems it will be difficult to say which will gain and which will soffer.
Q. 6. Out of the sabjeots of atody mentioned in this section, I think it better if surgery and anatomy are taught with due attention to modern ecientific methoda also-
(a) I propose that the "All-India Ayarvedn Viddya Pitha" methoria of qualificntion should be adopted, viz.-Bhishak (L.M P. and L.M.8.), Ayurveda visarada (M.B. and M.8.) and Ayarveda Acharya (M.D.). Those qualified in theoretical and practionl knowledge should socordingly be granted oertificates.
(b) (1) In the preliminary or Bhishak, five years' training and a fair knowledge of thn Sanakrit language, (2) intermediate or Ayurveda visarada, eight years' training and alan a good knowledge of the Sanakrit langange and grammar and (3) final or Ayurveda-Acharyn, ten yeara' training and proficienoy in Sanakrit language with poetry and grammar. Candidates should be at least 16 years' of age and should have a fair knowledge of Banskrit.
(c) I endorse the subjecta for the Ayurveda visarada examination in Viddya Pitha, vie. : Materia Medios and Therapeutics, Pathology and Symptomology of disease, practice of Medicine Sargery, Anatomy with elementary Physiology, treatment for children, eto., up to a proper standard.
Q. 7. I consider that the extension of medical Registration to Indigenons aystems of medicine is necessary. Those who have been educated on Indigenons lines nad hold certificatee of competency according to the existing standard of the Ayarvedio school, and those who have passed no examination but have at least practiced as Ayurvedic phyaicians and gained experienoe as such for a period of not less than ten years, provided they are not lese than 80 yeare of age, should be admitted to registration on the recommendation of three respeotable men, as to their ability. It is to be understood that the registration of the latter class will be made only onee and not repeated.
(a) There should be a Board of Registration for admitting competent praotitioners as stated above, into the medical registration
(b) I am ignorant of the existing legislation regarding medical registration.
Q. 8. The cost of treatment according to the Ayprvedio system is much lese than that of any other aystem, Ayurvedic physicians being paid very little in the shape of fees, and medioines oosting less and often being easily procurable.
Q. 9. The causes of decay of Indigenous system of medioine in Ceylon are mainly due to the following faots : - Encouragement and support lent by the Looal Government to the propagation and establishment of Western medical science to the exolusion of all others; the indifferent attitude of Government to the Indigenons system, the want of a suitable medioal institution for systematic education on Indigenous lines; the absence of any means of teating the learned in this science, the absence of gardens fully furnished with medical plants; the groundless oharges against the Indigenous practice preferred by Western professional men to safegaard their owd interests. For the revival of the Indigenous system, I would ang gest the eatablishment of (i) a medical school fally furnished with all necessary appliances, etc.; (ii) a hospital for investigation of diseases ; (iii) a library and a museum ; (iv) a laboratory; ( $v$ ) the appointment of praotitioners to various stations who have finished a regular coprse in the medioal school and passed ont successfally.
Q. 10. Ont of the four methods (a), (b), (c) and (d) enumerated under this seotion, our opinion is that so far as Ayurveda is concerned, it could be fostered and promoted by the Government or State only.

The references mentioned in the first two answers :

> 1. "नास्ति रोगो विना दोषै:"-स्वश्रुत ।
> "सर्वेषामेa रोगाणां निदानं कुपिता मलाः"—माबविनिदान ।
2. "नरो हिताहारविहारसेवी समीष्थयकरी विषयेप्वसकः।

दाता समः सल्यपरः क्षमावानाप्रोपसेवी च भवस्योगः ॥"—चरक।.
"तत्रकोपस्य बु प्रोक्त विविधाहितसेवनम"—माषवनिदान ।
3. "प्रकृतिमिह नराणां भौतिकी केचिदाहुः

पवनदहनतोयैः कीर्तितास्तास्तु तिस्तः "—ुुशुत ।
4. "पंचमहाभूत्तरीरीरिसवायः पुरुष हत्युच्ये"
"दोषधतुमलमूलं हि चरीरम्"

5. A (residential) dispensary managed by the kind donation of an American lady 'Foster Robinson' of Honalula.

## EVIDENCE WRITIEN IN SANSKRIT.

## JAIPUR-RAJPUTANA.

(1) Shijut Vaidyaratna Swami Pandit Laksimi Ramaswami acharya.

उपनतान्यन्वेषकसमिते: (कमीशन) प्रस्तावश्चोद्देश्या।ने च । राजतन्न्नद्रारा नियामितामिमiं समितिमालोक्य भृरामभिनन्दामि । देरीयचिकित्सापद्धते: साह्यय्याय पुरा कतिवारमम्यर्थयन्ने स्म भारतीया: प्रमुखसज्जना: शासनाधिकृतान्, परं नैतेषां प्रार्थनास्ड कारणविरोषेण तस्मिन् समये शासनाधिकृतरवधानमदायि । वयमेतस्य कारणमस्माकमायुवैद्यद्धतेश्न दार्भाग्यमन्तरा कि वा वक्तु पारयामः । परमधुना स्तोकमाशाया: संचारमनुभवाम: । समितेरस्या नियुक्तिमवलोकयन्तो वर्यं भूरि विश्वसिमो यद्युष्याश्रिकिरसाप्डतेरिदंद दौर्भाग्यहतकमचिरादेव विल्यमेप्यतीति। अत एव समितेरस्या नियुक्तये भूरि घन्यवादान् वितराम: शासनाधिकरणाय । सहैव च समितेरस्या: समस्तसं्येभ्योंडपि घन्यवाद्रद्रानमात्मन: कर्तठ्यमवधारयामः 1 यै: किलामूल्यमात्मनः समयं परिज्ञानक्षास्मनन् गवेषणकर्मणि विनियुक्जानैरेष कार्यमारः समुपात्तोडसित। वयमेतदपि सुद्वढमाराएमहे यत् स़ितिरन्वेषणसमयेडवश्श्यमिद्मवघास्यति यथा कस्यापि कार्यस्य चास्तविकता तदैव निण्णाता भवति यदा हि गवेषयन्तः पुरुषाः पक्षपातविराहिता भवन्ति, न च तै: कश्रन सिड्डान्तः पूर्वत एव मनासे निश्भितो मवन् ! विषयमिममन्वेषयन्त्या: समितेरिदमेव लंख्यं भवेद्यद्यां पद्धतौ| कियती कित वास्तविकता₹्तीति । अवरयमिद्मप्याइंसनीयमरमाकं यद्राजनियुक्ता सेयं समितिम्विरंकालादायुर्वेदीयचिकित्साव्यवसायमनुतिष्ठद्धिरनुभविमैैैैद्यविद्वद्भिः, वैद्यसंसथाभिश्चोपस्थापितानि पमाणानि युक्तींश्रेापजिएव्य पुनरुत्थानमायुर्वैदस्य च मनसि कृंखा, अनुकूलैस्तैैरुचितं निर्णयं विद्ध्यादिति । शासनाधिक्टतांशापि समितेग्गवेषणापूर्णेडशेरमत्निर्णये सुदृढमवधानं पदद्तो निणियमिमं कार्यरूपे परिणमययुतुमनुकम्पयेयुरिति च ।
(१) मम सम्मतावायुवैदीयाचिकित्सापद्धतेवार्ताविकतानिर्णयाय नियुक्तायामक्यां समिती. यदि कश्रन विद्रान् वैद्योडपि चेन्न्नुक्तोऽसविष्यर्चार्हं समुचितमपविष्यव् 1 अस्ति चाधिकतरं ममंरा। यदवइयं कशन वैद्यविद्वान् अत्न मवेद्विनियुक्तः 1 नाधुना समितौ सम्मिकितो मवेचेत्साक्षिणां भाषानिर्णयसमये Sवइयमेकः सुपतिष्टितोडनुभवी वैद्यविद्वान् निमन्त्रणीयो य: खतु समये समये आयुवेंदविषयस्य विवरणं पक्षपोषणं च कुर्यात्।
(२) पूर्वस्मिन् युगे कीटरमभवत् सरूपमायुर्वैद्यय ? यत्र हि अयुर्वेदीयचिकित्साया आघारेणैव तान्कालिकं जगर्जीवति रम। नासीत कश्वनान्य उपायः । अत एव तार्मन् समयेइंया उन्नतये, अभिंवृंद्दये, उपयोगितायै च महान्त उद्योगाः, समुचितां आश्रया:, प्रकांण्डाश्र प्रयत्नः अवलम्बयन्ते क्म । एतदेव कारणमस्ति यदनेन शास्रेण सुमहद्रगौरंबं विरादं च खरूपमवाषमसित इति।
(३) आयुर्वेदशारंत्रं हि दिव्यदर्शनसंपन्नानां प्राक्तनमहर्षीणां वैद्यमहाभागानां : च पर:सहसवर्षाणामनुमवस्य, प्रयोगस्य, उद्योगरय, नैसर्गिकर्जीवद्यायाः, साभाविकमूतसहानुमूंतंश्य फल़मस्ति । अनककालपरिसाध्यानां परीक्षितानामीषघनां, योगानाश्ष येयमव्यभिचरिता व्यवसंथावलोक्यते, एतस्या अपीदमेव कारणं यदेते अनन्तकालादनन्तशरीरेषु रोगादनुपश्रमय्य सिद्धा: सन्तो लोकेषु पसिद्धा अभवन् । मूतद्यापराः प्रार्चना महर्षयो वैद्याश्य स्वार्थपराः नेमान्यौषषधाने नैतान योगार्ष प्रायु ञत 1 क्रिन्तु निसपदा: खार्थत्यागिनश्भ ते मूतानुक्पापरक्शा: सन्त: संसारकरयाणायैव तानिमान प्रायुक्षत।
(8) किशायुर्वेदे य इमे न्यापकसिद्धान्ता: त्यिरीकृताः सन्ति तेडबी इसपष्टमिं साष्यनि
 संस्कारं विनैव यथाययं कार्येक पारणणामेता अध्याम्यन्यभिचरितं पदर्शयनित फलम । बवंविषना ब्यापकसिद्यान्तानां स्थिरीकरणं न साषारणपरिज्ञानस्प कार्य भविदुपर्ही़ । नेषापेब सिद्धान्ताना मूलमून: सिद्धान्तः सेंय त्रिदोषपद्धतिर्नाम। या किल चरीरे संरक्षिणी धक्ति: विषातिनी शतिश्रोररीकियते। सा हि वस्तुतोडस्मांक सिद्दान्तानुसारं वातपितक्रफानां भाकृती चैक्रती गतिरूपाव-
 केवलं कार्यनुमेया एव। उथूलुवातादयस्तु अनेकेषु कूपेतु अनेककार्याणि कर्बन्तो विलोक्यन्ते। बत एव धारीरस्य ख₹यदशायां रुणदशायां वा भाकृतवैहृतमेदेन वातदीनी सम्न्न्ष एव निस्रीये । यदाश्रयेणानुर्वैस्य जीवनसवर्सं महत्वं चावतिष्षते । एवंविभानां गमीराणामपरिवर्तनझी-
 पदर्शनाय चोपयोगं पददनत्नतौ आयुयुवेदः सर्वविधमनुष्याणां लाभपानेरनुपषं साषनं संपलोडसित ।
(६) आयुवेंदर्विततं रोगाणां निदानम्, उक्षणम्, भौषघं चेति जिपपृटी संपूर्णपदार्यतथ्वानां सामान्यज्ञानस्य विपर्पयज्ञानस्य वायत्तास्ति । सामान्यविपर्ययज्ञां च पत्यक्षम्, युक्तिसहकृतं तंक्क बा विनाहुः-सम्भवम्, यावत्पर्यन्तं रोगाणां बाल्यकारणेपु आम्यन्तरकारणेछ च सामान्यमाबो विपर्ययभावो वा न सम्पघते ताव्पर्पन्तं तद्द्राराडम्यन्तरपदार्थानां हद्दिक्षयरूपं परिवर्वनं न सम्मवति । अत एव रोगस्वरूपावबोधाय सामन्यज्ञानस्य, एवमीषषव्यवस्थापनाय च विपर्ययज्ञानस्यावश्पकतास्ति। एवमेव सथूलाव सथूलानि सूद्वमात सूक्ष्वाणि च संपूर्णानि रोगकारणानि सामान्यज्ञानद्रारा रोगस्वरूपनिर्षरणेे तथा विपर्ययज्ञानद्वारा औषपनिर्धररणे साहायमूतातनि भवन्ति ! कि च स्वास्ट्पपरिरक्षणायम्यन्तरिकावश्यकतार्तूये सामान्यज्ञानस्य, तथा अनावश्यकानों विनाशकानो- प पदार्थाना पीरस्यागाय विपर्ययज्ञानस्य प्रतिक्षणमावश्यकता प्रतीयते। केवतमैषधानों प्रमावज्ञानायेव तयोर्विऐेेष नोपयोगः। एवंविधस्थलेषु विशिष्टनुभवानामाधपुरुषाणामनुपवोपदेश एव भमाणमम्युपेते यतो हि पदार्थानां संप्र्णशक्ते: परिज्ञानं सर्वज्ञस्येश्वरस्यैव सम्भवति नान्यम्येल्येतदाधुनिकविज्ञानेनापि सिद्याति ।
 परिपृषौौ विरलवविरहाया अपर्याषाया अपि सहायताया लोमेन कियताश्थन संमहग्रन्याना निर्मोणेन
 विकिस्सासून्राणि, चिकिस्तायाः प्रकाराः, तस्याः साधनानि, रर्रोण सह सम्बन्घार्यमनन्ताः कत्पनाः, भेषजद्रव्याणि, इल्याधनन्तानामाकरायेता सम्पन्नासित। इयं साधनंस्म्पत्तिरेवनेकविधानी विघवाधाना-
 प्रक्नी अमर।
(७) एतस्या वर्तमानोऽंयं ममावशेषो बहुतरं छिन्नभिन्नावस्थायां बर्त्तते सर्वयाप्याश्रयामावेन
 सिद्धान्तानां, विशेषतचवानां च पूर्णतया परिचयं न प्रात्रुमशकाम। बागुवेंदस्य वा₹तविक सरूपं न शक्कुमः प्रकाशयितुं तथापि मझावस्थामश्रयंद्रेरपि सिद्धान्नैः कृतानों कार्योणामदुतां सफठतामवलोक्य वयमनुमातुं शक्कुमो यत् काश्रयस्य शिक्षायाश्र प्रबन्षे सति पूवंस्वरूपभापना सेयमायुर्वेदीयनिकिस्सा कियतीं सफलतामवापुयत्त देशस्य कल्याणताधने कियन्त कोपयोग पापुयादिति ।
(८) पाश्रालस्थैपषविज्ञानस्य पत्षाइतो बरेम्यं: ूूर्व'या स्रिथतिरासीत, साम्पतं च यार्य स्थिथि:, उभयोरेतयोस्तुलनायां स्पष्षमें सिघ्यति यदायुर्वेदोोक्तानां बह्रनामेषघीनामेतस्मिन समा:-
 भवानुसारं पाश्रा्यभैषषज्यपद्धतेग्रोंह्या , भविष्यन्ती़ति ।
(९) भाषुनिकविज्ञानस्य आंए्रमाषायाश्य न मे परिचय इति केवरमायुरेदेशास्त्जानमान्वेण चथमति यथास्थानं च प्रश्नानामुतरं संरखुतमाषायां निबदुु प्रयते ।
 चिक्साकर्म च समाचरामे। अनस्तवसिद्धान्तानेव समर्थवितुपुदुदे ।

स चयमायुवेदः पुरा अष्टास्मेष्रु भविमकः पूर्वाचार्यै: कार्याविभगेन निकित्सासौँकर्याय। तानीममन्यष्टावक्षाने, यथा-शब्यंचिकित्सा, शालाक्यचिकित्ता, कायचिकित्ता, कौभरमृत्यम्, रतायनतन्न्रम, वाजीकरणतन्नम्, अगदतन्त्रम्, मूतविया चेति। तत्र शाज्रयन्न्राध्यानां सत्वैषां
 नेत्रकर्णश्रणणमस्तिष्कादिगतानां रोगाणां आश्रचोतनाज्ञननस्यतर्पणादिदि: शलाकामिश्योपशमो निर्दिष्टस्तच्छालाक्यचिकिस्ता नामान्गम । यत्र च सर्वररारोपतापकानामामाशययकाइययस्थनामुद्रवानां ज्वररक्रपित्तातीसारादीनां रोगाणां प्रतीकारः सा कावचिकिस्सा। यत्र चासंपूर्ण्चल्बातुलापक्ठष्टवयोऽवरथाप्रमावद्वालस्य नानाविधानां रोगाणां भतिविधिनं धात्रोदुग्षलक्षणं दुग्षोद्धवव्याधिपरामनिद्देशेश्र विधेते तत कौमारमृयं नाम । यन भाविनो नरादोषविक्ववत्वस्य निटत्तयें नानाप्रयोगैरूर्जास्ति श्ररीरसम्पादनें वीणितं तद्रसायनतन्नम् 1 यत्राएपदुष्रेवसमाप्यायनप्रसादोपजननरूपा निकिस्सा विहिता तदाजीकरणतन्न्रम्। यत्र लाघिदैविकरूपाणां रोगाणां शान्तये प्रतिकर्म विहितं सा मूतविद्या। अथ दैववशानिरोंहितभायेष्वितरेष्बजेषु केवलं कायविकिस्साङ्भयेकमेव यथा कथंचिव् वैद्यानां
 बोपऊम्यते मूलसंहिता। अपरे च वाग्भटादयः कतिचित् संग्रहग्रन्याः। तन्र प्रतिपादितां ये रोगकारणानुस्ध्धानपरा रोगनिर्णयपराः परीक्षापकारोपयोगिनभ्धिकित्ताव्यवस्थापकाश्र सिद्धान्तास्तानेव ससमितेः पुर उपस्थापयानि ।
(२) (क) आयुर्वेदनुसारं रोगोत्पत्तिसिद्धान्तान् पदर्शायेत्डं कोऽसौ रोग इति निर्णयोऽस्यावश्यकोडध रोगतत्वमनुसन्धाुुपपि प्रथमं स्वाध्र्यमेव विवेचनीयं भवति। स्तास्थ्यैवैपरीत्यस्यैव सर्कबादिसिद्दान्तेछु रोगत्वेन सीकाराब् 1 अतो रोगतच्चं रोगोत्पत्तितचंच्वं च निर्णेकुपुघतस्य सत एव स्वास्ट्थतवं निर्णयाय आपतति। अतः स्वास्ट्यमेव प्रथमं निर्दिखयो-

यदुपलळ्यये भापामरं सर्व एव लोको व्याप्रियमाणः परिद₹यते यदुपलब्षौ सर्व एव पुरु-
 नतु स्वाश्थ्यमिति जिज्ञासायामायुवेदे उैचैरिदमुदोष्याति-

समदोषः समाग्रिश्र समधातुमलक्रियः।
पसन्नालेन्द्रियमनाः स₹य इल्यमिधीयते ॥
अन्र निर्दिश्यमानाः दोषचतुपर्कक्कियाजाठरामिपदार्था अग्रे पृथक् पृथक् निरूपयिष्यन्ते इति तत प़व बोद्रव्यम्। मावार्थंस्तु यस्यामवरथायां शरीरसम्बन्चिनारिवलानां यन्ब्बाणां सरेषां चन तंवानां घथायथं सम्यक्तया च्यवहारः सम्पय्यते सा साभाबिकी शरीरदरैव सास्थ्यम्। .अर्थाव, समुदितशारीरभावनां परपपोपकारकतया साभाविकमवस्थानं सास्थ्यश्ब्द्याभिघेयं मवति ।

तस्य स्वास्थयम्य हेतुरापे अवर्यं विजेयो भवति; विबमाने बसिम्त तव्परिरकणाय, धविष-
 तस्मिन् ऋतौ कतौ चीवोण्णवर्षादनी सम्यक् योगः सति च तस्मिन् अतुजर्जाविनจर्यानुसारेण बाहारविढाराणामुपयोग:, सर्वातियोगमिष्यायोगानां परिल्याग़:, वातमूत्रपुराषादिकेगानामनुदर्रण ,
 ग्योग एव स्वास्स्यहेतुरिति घुवरां वक्तुं खक्यम् । त₹ दव्यग्रहोन भाहारोपयोगिनां बत्तूनां तथा घ्वानाम्यङ्गोपलेपादिषषु, आच्छादनपरिधानादिशु वा उपयुज्ययानानामपेषामुपकरण|नां, देशकालयोश्र घहणं भवति। गुणग्रहणेन च शब्दपपर्शरुपरसगन्धनामय संयोगतंस्कारपरिणामादिसहितना सवेषषा शीतोण्णगुरुम्मुमेंेहरूक्षादाना गुणानामन्वयः। एवमेव कर्मग्रह्णेन सर्वेषा ह्यायामन्यवायशायनासनादीनां शारीराणां तथा संकृष्पाध्यवसायाद्दानां मानसानापेवं गीतहाससंकथादीनां च बाबिकानों कर्मणा ग्रहणं बोच्द्यम्।

रोगस्तु सामान्येन सास्थ्यपरिट्रचिरेव; अर्थात् शारीराणां यन्त्राणां भावनां बा स्वाभाविककियासु स्वामाविकधरेषे सुाभाविके वा निर्मुणे थत् किमपि बैपम्यमुत्पद्यते तदेव रोगः। अपवा यया अवचधया शरीरे भाहरणशक्तेः संजीवनइत्रेर्वा द्वासः समुपजायते सावस्पैन रोगः। सा ₹ धतुवैषम्यानतिरि कैन ।

रोगाणामुत्पत्ती ह्दिविष एव हेनुर्मृति बाहा आम्यन्तरश्र 1 तत्र बाब्यो हैतुर्भिदानसंज्ञया ब्यवह्रियते स च यद्याप नानाविधो, नैकरूपोडनन्तद्रव्यतुणकर्मास्मकततथापि पूर्वचचर्यैसात्प्येन्द्रियार्थसंयोगमज्ञापराषपरिणाममेदात त्रिविध एव चर्णितः। सर्वमप्युक्तमनुक्त वा. मायोशिमनेवन्तर्मवतिं। तत्र पथम:-असात्मेन्द्रियार्थसंयोगो नाम शररार्रतिकूलै: शब्दस्पर्यूपरसगन्धे: सह इन्द्रियाणा सम्बन्धो रोग्हेतु: एतदुकं भवति-न हिं भैतिकानां द्रव्याणां शरीरसम्बन्धमन्तरा रोगारोग्यकारणत्वंं सक्भवति, शररीरेण सह तेपां संबन्पश्य इन्द्नियद्दारेणैव मवति, वानि चेन्द्रियाणि पष, थतः पभविष एव इन्द्रियार्थसंयोगः। अभ्र यद्याि एकैक इन्द्र्वयार्थसंयोगोडवान्तरमेदबाहुछ्याद्यहुविषो भवनि।


 हीनातिमिथ्यासमयोगमेदात्-तत्र तमयोग एक एव आरोग्यहेतु:, स्वाभाविकक्षयूरकलेन स्वाध्र्यानु-
 सपर्शाम्यवहार्यदोषः असात्मेन्द्रियार्संयोग एव। तथैव च शारीरम, मानसम्, बाषिक्ष च नानाविध कर्मजातं अयोगातियोगमिथ्यायोगयुकं झरीरे धातुवैषम्योल्पादकं भञ्ञापराषसंज्ञया निर्दिधयते। एवमेव कालस्यापि शîतोष्णवर्षादयो หर्माः प्रतियोगयुक्तः, हीनयोगयुक्ता ययास्वळ्क्षणविपयांसेन थुक्ता वा समयोगयुक्ता अपि अपरिरक्षणेन धातुवैषम्पमुत्पादयन्तो यदा रोगजनने समर्थी भवन्ति, तदा परिणामशब्देन अभिधीयन्त इति सर्वविधमपि रोगकारणं निवन्घेपूक्तमनुक्तं वा विज्ञातमविज्ञातं वा सामान्येन संगृहीतं भवति। तदिदं निदानग्रन्येकु तः तत्र भीतिरोगं बाहुब्येनोपछम्यमानं कारणजाबमुदाहृतम, तथन्येषां सूस्माणां विशेषाणां विज्ञानाय दिगाप पद्री्मता सर्व्वैव।

सर्वरयाप्येतस्य बाद्धनिदानस्य शरीरसम्बन्धानन्तरं रोगोल्पादनार्थ व्यापियमणणस्य दिविधो
 स्थानसंश्रयादिकमेण दोषान् ब्यापारयन् शारीरमावानां चृद्दिक्षयमुत्पाद्य पश्रात्पीडाकरं अवति।

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किंचित्च पूवं रोगस्तरूपं पीडाकरमुप्पाय पश्रादोपान् संचयादिधुु ठ्यापरयति। तदिदें कमेण निज
 किन्तु एवं सल्यपि उंपत्तित्वापारहैविध्ये उत्पच्यन्त्वरं हूयोरापि पायत्तुल्यतैव (एकाकारतैव) संजायते, श्ञारीरभावानामागन्नुछेगेरानुकूस्यामावे रोगस्य चिरस्थानासम्मवात् शाररिभावविकृतिम्न्तरा नानाविषतिकारक्षणासम्मवान्च इति बाहहेतुत्बरूपपदर्शने सड्क्षेप: ।
आम्यन्तरो हेतुरपि बहुनिषः शरीरे यानि द्वव्याणि धातुरूपाणि, दोषरूपाणि, मंलरूपाणि,



 किंचित्ट इति कृत्व रोगोत्पादने कारणं मझति। इदं लब विशेषतोऽवघेषम्, यदेतेप्वाम्यन्तरोपु कारणेष्ड मध्ये कस्याचित् कारणस्य दूककलेन कस्वचिद्दूध्वलेत कस्पचिच्चश्रयत्वेन कस्पचिन्मार्ग-


 गुणकर्मविशेषाणां नानाकाराणां रोगाणामुत्वन्त्तित्तथा नानालभ्षणसम्मवक्न।

 शगरराराभावास्तेषां च माक्तानि गुणकर्माणि बिश्रिप्य ज्ञातंक्यानि मवन्ति; ज्ञातेपु तेपु हि तद्द् विकृतिज्ञानं स्वल्पाययोन भवति विकेका़्म्यातवतो जनस्व।
तत्रु श्रारीरा भाषा रसरत्तमांतवसास्थ्यादयो धातव:, शिराधमनीत्रायुनाडीकण्डरादय

 तत्परिभाणं, नत्संयोगः, संस्थानमिलादयो भाबाः । पाकृतानि कर्माणि च तेषां प्रलेकं शराोसखाध्र्याय विषीयमानानि नानाविषानि जीवनबृम्हणन्लेहनधारणादीनि-तथा रक्तसंचालनोहहहन-


 अनवरतमुुद्षीयमानानि खभावत एव विक्षेयाने अनुभवसिद्यानि चेति। अथ एवां भावानां विकृतिस्र स्वरूपतो बहुविषापि संसेषेपेण तावद् द्विविधिव भवति
 सदुत्पादकमौलिकद्रव्याणां वा खरूपेण परिमाणेन संस्थानेन संख्वानेन अन्येन बा केनापि पकारेण वर्घन गुणतो वर्धनं जेयम्, तद्दिपरीतथर्न क्षयः। तथैव तन्नियतानां कर्मणामापि वृद्दिर्भवति

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 समाषौौ रोगाभिव्यक्तिर्भवावे ।





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 (६) भेदाएव्यः इंति षडवस्थाः—सुशुते स्पष्टुक्तः ।

## " यद्यापि अन्यान्यपि कारणानि सन्ति रोगोत्पादने तथापि तेषां तत्रेदान्लर्भावः"।






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 विवेचनीयन् ।



वृद्दिक्षयमुप्पाद्य पीडाकरं भवतीति .तदिदं निदानं निजलेन ब्यपपदिईयते; तदुत्पादितानां ऱेगणणामवि निजल्बेनैव बयवहारः। यतु निदानं पूर्व रोगस्वरूपं पीडाकरमुप्पाध पश्राद्दोषान् संचयादिष्तु व्यापाएयति तदिदमागन्नुनाम्ना प्रोच्यते ; तदुल्पादितानां रोगाणामपि आगन्तुतुजज्ञैव व्यवहारः।
 संकमणेन च। तत्र काष्ठलोंट्यायमिघातेन वणादयः स्वतन्नेणोत्पदन्ते।.
"द्वाराणि व्वागग्वूनां नखदशनपतनामेघाताभिषङ़ाभिचारामिशापवघबन्धनव्यध़नवेष्टनपीडनरज्जुदहनशहाइशनिभूतेपषसर्गाबींनि विज्ञेयानि" (चरकस्त्र २० अ.) "संक्रमणम "संक्रमतु एकरमाव व्याधिताव् अन्यस्थाव्याधितस्य चरीरे औपसीर्सकाणों दूषितानां कुष्ठादीनां च रोगाणाम् 1 तद्द्दाराणि च—तथा तत्तद्रोगाक्कन्तुपुकेषण सह मिधुनीभाव:, बद्गात्रसंसपर्शादि, तेन सहैकपाने मोजनं, उदीयनिश्वसगग्रहणं, तदुच्छिष्मोजजनम, धीविहितामूलयोधनेषु तदीयपो्शेषु भोजनम, तेनें सहैकराय्यायोमेकासने वावस्थानमू, तदास्तरणमांवर्रणादीनागुपयोगः; तेन घृतानां तत्वेदेदादिबहिर्मलोपसृष्टानां बस्त्राणां घारणम्, तदुपयुक्तानामपफकरणानां ब्यवहार;, तंदुपघातमाल्यपुप्पादिकननामाघाणनम्-तदन्तर्गतः कीटा एवाद्यापि संक्रमणकारणमू । इल्यादि । तत्तंघह स्छोकश्र-

> प्रसङ్ఞादान्तंस्पर्शान्निः्वासात् सहभेजनात ।
> एकशरयास्तनाच्चैव व₹्रमाल्यानुलेपनाव् ॥
> कुष्टं ज्वरश्र शोषश्र नेत्राभिष्यन्द एव च ।
> شपसर्गिकरोगाश्न संक्रामन्ति नरान्नग् ॥ इति ॥

जनपदो द्ध्वंस्सनाय एकरुपस्य ब्याधेराकमजम्-
यदा तु असमान्रकृतिषु, असमानाहारविहरोषे, असमानघरीरसंस्थानबलादिषु, तथा असमानवय:कमेषु, बहुछु पारणषु युगपद्र एकरूपस्चैव वयाधेराकमणं मवति, तदा वापुर्जलं देशः कालो बेति चत्वारि रोगकारणसंत्रिष्टानि कारणानि मवन्ति 1 तत्र वायुर्वाभाविकोडतिरीतोड-
 विक्ठतिकारकत्ं चथा विषोपसृष्टत्वादि) पूल्यादिगन्धबहुलः (वायोः पूतिगन्धिले तु शारिरमल-
 इल्येवमादिरूपो विकृतिकारणम्। अ习 यद्यपि वातसंपृत्ता अनेकविषा अस्वामाविकाः नानारूपाः सूक्ष्माः पदार्था एवं बिकृत्वो कारणानि, वायुत्तु द्वारभूत एव तथापि विक्षेपशक्तिरूपेण वातेनोपनायमानःः इारीरसम्बन्ये वातरूपतवैवै।पलम्यमानाः पदार्याः बायुरिति कृत्ला वावोः कारणल्लक्यददेशः ।
 विक्टितारणम्। अश्रापि जलगतानामनन्तविधानां रोगकारणानां जरुरूपेण पीयमानानां जललव्यपदेशः ।

देशोडपि विकृतो यथा ज्ञातव्वस्तथोच्यते-
भुम्यादिरूपस्य देशस्य विकृते: पूवं चे प्राकृताः ंगुणाः वर्वंगन्धरससपर्शादयो मावाः
 र्पत्तिरियादि, तथा केलदबहुल्यम्, तथा नानाविधमशकशलममक्षिकामूपषिकण्पालादादिमेरुप-

सृष्टत्वम्, तयोपबने तृणोलुपभायत्वम्, भतानादिवाहुल्यम्, अभाकृतापतितथुफ्कनटशस्यलंश्इस्यादिरूपा बहुविषा भूम्बादियिक्छनिसंघातः देशबिक्हातेरूपेण शासे निदिधः 1 तथा च सर्वत्र सेर्वमावे प्रतिक्षणं बैल्क्षण्यमापादयन्, डक़्रिज्ञर्र्याविक निखिलं स्याषरजङ्गमादरूूपं भार्थिवादिरूपं च मौतिकद्रठ्यसमूंह पतिक्षण परिणमयन् भाहतानां बैक्तानां बा सर्वेषां भावानां कालः अवभावेन कारणम्। इति परंढ ननपदोइबवेते बिमाने ॥
" किम्यादीनां रोगोत्वस्तिकारणले स्वीयसिद्यान्तरंक्षेपः"
यघवि, मसिरोगं निक्षाकाराः क्रिमयः कारणमिति भत्यक्षमुपलम्यते इलयतः किमीणामेष कारणलं स्यादिति निचार्यदे, तथापि तत्तदाकाएकिमिब्यकीनां केषुचिचेव कुष्यादितु रोगदिरोष्पु


 कारणानि ते च दहवतो बिविच्च्यमानाः लोके सोमापिवायव:, धारिरान्बश्र विविच्चमाना: वात-
 णामपि उत्पच्यभिह्टदयोः कारणं तत्रातिकूल्ं च विघातकारणमिति सर्वत्र वातपित्तकफसम्बन्षो न व्यमिचरतीति सिद्दान्तः ; केवलमागन्त्रकारणलेन पीर्वापर्म्यमेदः ॥

लोक बाधर्कस्कसमानां दुर्विजेया यथा गतिः ।
तथा शररोे वातस्य पिचस्य च कफस्य च ॥ां इति चरकीजकित्सिते २८ अध्याये.

## रोगपरीक्षपप्रकारः ।

(ख) अय बुद्दिभीवं रोगपरीक्षार्थपयुक्तेन घैघेन त्रय उपाया अशश्रयणीया मवन्ति; उपदेशः, प्रक्षमनुमानं चेति । तत्रेपदेशो नाम गुरुमुखाव शास्त्रानुसारं मतिरोगं हेतुक्षणण-
 बाह्छकार्रण्माग्यन्तरकारणं च संस्थानशब्दपपर्परूपरसगन्बात्मकं रोगःवरूपं च, वेद्दनाश्र विविषाः, अधिष्टानाने, उपद्दवाः, प्रतीकारार्था प्रदृत्तिर्निचृतिर्वा चिकित्सारकारवैशिष्टचं च ज्ञायन्तों। एवं उपदेशाव् ज्ञातरोगतचव्वो वैधो रोगपरीक्षणर्ण प्रस्षक्षमनानं च अभ्र्रयंत्। तत्र प्यक्षेण भिषक् सर्वार्निजनेन्द्रिये: सर्वान् आडुरशररिगनन्न शठददपश्शरुपरसगन्धादीन् परीक्षेत।
"तन श्रोंश्निन्द्रयविक्जेयाः विशेषाः—सफेन रकमीरदन्ननिल: सशबढदो निर्गच्छतीयेय-मादव:"-सुश्रुतस्सूत $\}$ अ.। तथा अन्त्कूजनं सन्धिस्फुटनं चेति, तथा रोगिशररीरावयवनगतान् शव्दविशेषान् ₹वरविशेषiंश्र श्रवणेन्द्रियेण परीक्षेत । तत्र श्रवजेन्द्रिविजेयाः स्वरविशेशे आप प्राकृता वैक्कृता इति द्विघा भवन्ति 1 तन हंससीचचन्द्दुभिकलींबककपोताधनूक्रा तृणां
 दानास्तु वैक्टताः। अन्येडपि वाड़खामाविका वैक्कताः । एवं महमूत्योः कफस्य रक्तस्थ गुकस्त्य रजसो घणास्सावस्य छार्द्तस्य वा शरीरावयवानां नेत्रजिद्यात्वब्नखप्रमृतीनां वा यश्रत्मवं वर्णसंस्थानपमाणच्छागड़ प्रकृतिविकृतिमावी, तथान्यदापि यतुकिमपि चशुर्वुषयिक मंत्र्त्

धाणेन परिक्षेत। स्पर्शाविशेषंश्य नाडीस्पन्दनादीन् शीतोष्णक्कक्षणकर्कशमृदुकठिनत्वादीन्, तथा ग्रन्थिशोथादींश्र शरीरगतान् शरीरावयवगतांन् ₹पर्येन्द्रियपधानेन पाणिनैव । इति प्रत्यक्षम् ।
इम डु अनुपानज़ेयाः आवारश्रररगता भवन्ति मावाः, तद्यथा-भिषक़ आतुर्जाठराम्में जरणशक्य। अनुमिनुयाव् । बलं तु व्यायामशक्यय। श्रोत्रादानां प्रकृतिबिकारौ शद्वार्द्ययमहण-
 -वीर्धुन्साहेन, संज्ञां नामग्रहणन, वयो भक्तिसात्पव्याघिसमुन्थानानि काइदेशोपशयवेदना-
 1 Tplisplebelipis:




> "आप्तश्शोपदेशेन प्र्यक्षकरणेन च ।
 "तर्वथा सर्वमालोच्च घथासम्मवमर्थवित्र 1. अथाध्यवस्येत् तर्वे च कर्ब च तदनन्तरम्" ॥ २ ॥
"ज्ञानबुद्दिपदीपेन यो नाविशाति तच्ववित्। आतुरस्पान्तरामानं न स रोगांश्रिकिस्तिते "॥ ३॥
रोगपरीक्षार्थ रोग़िणो दूप्पादिपरोक्षणम्।

 सयः सिसिंद्धि प्रमोति। दूष्पादीनां समीक्षणणं यथा-
दूष्यं नाम रोगार्मकार्ये पधानस्याम्पन्तरकारणस्य दोषस्व व्वृद्दिक्षयविकृतिद्दारा सहकारि-





 रोगनिर्षारणार्यमावउ्यकं दूष्वपरीक्षणम्।

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अथातुरः•
 ज्ञानं, आयुःपभाणज्ञानं चानुरस्प पकृतितो, विहृतितः, सारत:, संहननक:, भवापत:, सास्पत:,
 परीक्षणमेवेविधम् 1 पकृतिश्न बहुविषा मवति । तेषां वेषां पुरुषाणां जातिक्रु्देशक्षाज
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 रेतिपरीक्षा सम्यनुुष्धीयमाना रोगतच्वपरीक्षषे अहाय्यमान्चतीति ।
 चानार्यपादा:









 व्याधिविपरीतबं चोमयविपरीतत्वं वा भमावज्ञानेन हेतुव्याधिकिपरीतार्थकारित्वं वा संघटे। तथा च

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 हद्रोगादयो बहुविषाः गुरममडुरक्निण्रमेननादलयदनात ब्यायाअछेपदिरूपात् सन्तर्षफात् बहुविधादवि
 विणनूत्रहादयः अपूूकादारालाभात्, अर्यात् जरीरावयवपोषणाहारदोबेम्यात्- रोगाणा निराव-


 अन्रापि अपदर्वणं भेषजं बहुविषं सदीि रोगकारणदोषबतानुरोषाइ द्विबिष अवति; घोषने
 नोच्ये। तथा अश्पपमाणे दोषे तंद्रेषम्यनिवर्तकं रोगप्रकृतिविघातकं कर्म शमनशबदेनोछ्पते; बव
 निहरणाय लेखनाय वा प्रयुज्यमानं घूमकवलगग्राज्ञाश्रचोवनादिकम्, वथा पूयमूहगर्मादिबहुविष-
 पाचनदीपनव्यायामोपवासातपमारुतादिकं, तथा शोयमें निर्वापणविम्छापनोपदेहादिके, तथा घूपनस्यगण्डबकऋवलगग्रहाब्जनाक्षयोतनालेप्सानादिकं इत्यादिमेदाव् बहुविषमेव भवति । एवं सन्तर्पणमेषनमाप बत्यवृंहणादिगणोपदिष्टे अभ्वगन्धा प्रमुति, तथा मांसरसदुग्पादिभोजनम । अनुवासनं बृंहणरूपं वर्तिकर्म, स्रानाम्प्रन्नन्व गण्द्रूाजनादि, इल्यादिमेदात् बहुविधमापि क्षीणशररीावयवानां पोषणात् चृहच्वकारणाव छंहणघब्देनोच्यते


 प्रयोगाय वा देशकालमात्रादी|नि सहकारिकारणाने नितरामपेक्षते। तया चोत्तम्-
विपरीतगुणैंैद्दैयमात्राकालोपपादादौैः ।
मेषजर्विनिर्वर्तन्ते विकाराः साध्यसंमताः ॥ १ ॥
 श्रवणमननांक्यां गुरूपासनया सतताम्यासेन प्रतिक्षणं रोग्यवस्थानां भूयोपूयो दर्शनेनेन च सझयत इति पूर्वमेव प्रतिपादितम्।

 रोचना इति 1 पृथ्वीमुद्रिद्य नायन्ते औद्रिदानें तानि चतुर्विधानि-फलवन्त पुष्परहितानि च वनस्पतिसंज्ञानि बटोदुम्बरादीनि । पुप्पानन्तरं फलवन्व तु वानस्प्यसंज्ञानि-आाप्रादीनि।



मेष्बद्रवेंपु .रत गुण बीर्य विपाकप्रमावः स्वभावतर्त्त्वृ्ति । वस्तुतसत एव द्रव्यान्तबिंद्यमाना धातुसाम्यं कुर्वन्त्ति सम्यक् प्रयुक्ताः। अयं माव्रः-किश्चित् द्रव्यं रसम्रघानं, यद्ससेनैक
 साम्येडपि यदेके द्रन्यमन्यक्कार्य कुरुते, एकन्तु अन्यक्काथँ कुरुते तदिदं कार्भ प्रभावजमेवः प्रभावो नाम रसीर्थीविपाकातिशायी द्रठ्यस्य सभाव:, स पुनः सर्वानसि द्रव्यान्तर्वर्तिनो रसवीर्यविपाकादीनमिमूय कार्य करोति। तन्येतानि जाङ़मानि औौड्रिदानि वा मेषजानि सद्यः पारिणमनर्शालानि शिशथिलावयवल्लात्। अतो यदा कालकमेण एतानि नितरामल्पवरीयाणिं अल्पफलानि वा संजातानि तदा आचार्धैंहुतितेथेन कालेनापि अश्पपरिणमनर्शीलानि प्रायः स्थिरावयवानि प्रमूतबीर्याणि घातूपधातुरनोंपरसरसोपरनानि प्रयोक्तुमरब्धाने । येषान्तु पार्थिवद्रव्यसंज्ञया ठ्ववहारेसेष्वापि रसर्वीर्यविपाकप्रमावाः पूर्वदेदेव विद्यमानाः कार्येकरणे समर्थाः। तन्येताताने बहूनै भेषजानि बहवश्षैषां कल्ककाथ हेहास वारिष्टच्चूर्णवटीवर्वर्तचक्रिकादिरुपूप कर्पनाविशेषाः बहव एव पयोग्रकारा ेे. तरतम्पभावेन विविच्य यथायथं. ठ्यवस्थीयमाना दे इ़कातुमात्राभिरुपपादि-
 विक्रति च नोंप्पादयन्ति ।

सन्ति चैविविषा अपि प्रयोगा ये प्रयुज्यमानास्तक्षणं वेदनाविशेषं शमयन्तो व्याषिप्यमकतया व्यपदिश्सनें; न ते वस्तुते। व्यार्ध प्रशमयन्ति किन्तु व्याषिकारणदोषादि विक्छतिमार्भिमवन्ति। कारणाभिमवेन तत्कार्वर्यव्याधिरपि अमिभूत इब मवाति। किशानाबश्यकद्रव्यतया अन्येक
 अत एव पूर्वाचार्याः—एताद्शीं निकिस्सां परिल्यन्य शुद्धामेव निकिस्तापुपदिशत्ति।. तघया" भयोगः शामयेद्यार्थि योंडन्यमन्युद्दीर्येत् ।
 तदार्ले चानुबन्बे च बस्य स्यादगुभं फलम् ।

(ख) अस्मच्छास्त्रनुसारं विषीयमानायाश्रिकिस्तायाः साफल्यमसाफलं वा वैदानां योग्यताया-
 तत्परतागुणसंकखितः स्यात्तदा तेन विहिता चिकित्सा नि:सन्द्देहं फलदाग्येव पायचः सम्भवति ।

भेषज, वैद्यो, रोगी, परिचारक इमे चिकिस्सायाश्रत्वारः पादाः सान्ति। एमि: सस्तगुणनद्दिः संयुक्ता चिकित्सा चतुप्पदसैपूर्ण निगधने। चिकिस्तायां सैषा चतुष्पादसंपत्तिरेव महतीं सफलतां संपादयतिं। यतो ह्येतदन्वतमपादस्य विक्रतौौ वैघः संपादयितुमुक्तः इष्टकार्यम्। असमांक च पद्रतौ भैषष्ररूपस्य पादर्य पाश्थाल्यानामिव स्प्पलं यातयामत्वं भायों विविधगरादिसंसकत्वात् परिणामें म्र्रो च नानाव्यापत्तिकरलामियादिदोषजातं न संमवति । अन्र्यौषधानिे तु संजातरतबींर्याणे काले सुलभानि सल्पव्ययसाध्वानि खुकरविविसेपादितानि च भंवति । इदमेव कारण यदारुवुदेदीयसिद्दान्तातुसारं विषीयमाना चिकिसा मेषजबाहुल्यात, सुविधिसंपाद़ित्व्वा्व, अभिनकदशायामेव प्रयोगकरणादयातयामत्वाश्रायशः अमोषैबाद्तुफलए च संजायते।

वर्येव् भावितंत सम्यक् सरसैरसक्रहुछ ।
रसगन्धादिसम्पल्न काले जीरें च मात्र्या ॥ ? ॥


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 खस्समावेन तथा पभावेन चरीरावस्यया न भतिकूलं तब साम्म्यिमित्यमिषीये ।

एकस्पामयस्यानेकानि भेषजानि सन्ति। यदैषषं रोगिणः साल्यं तसच पभावस्तदानये लRतं
संपद्योे। उंचितमेवैतद्य योो हि साएम्म्द्रव्यपरमाणूतां भ्रावः भाशशः शरीर्योनुक्रूऊ एव
 अयमपि देशीयवचिक्सिसाफल्ये प्रबलो हेढ़ः।

उचितो यस्य यो देशस्तज्ज तस्थीषषं हिवम्। 20
 अतो रोगिणां संख्यादिविवरणमसादशां दुःरकम्। राजसत्ता देशीयीषषालयान् तथा आतुराबसान् परिसाप्यास्याः पद्धनरेनुकूलं पनन्धं विषाय पुनरस्याः कियती सफलोते निश्रिनुयाव । (ग) अत्रासाकमेषा सम्मर्तियदनेकेक्ड जर्णरोगेगु महरोगेकु च अन्पचिकिस्सापदर्तानापपेषया वैधकचिकित्सापद्बतर्विशेषेपफलदायिनी संपद्यते। वातन्याधि झद्रणी ग्रन्यिवाताम्लपित्तोपषंशादिव्याधिता बह्वश्भिकिस्तिता मया। एतेषां रोगाणां निवर्त्तने आायुर्दो क्रानामौषघानो अनेकशश्रमक्करा अनुमूताः। परन्तु नामा啟नादिरीयियाबतेषेषां प्रमाणोपन्वास: कर्तुनशक्षव:। अन्यापि-







 ऊये समागतानां सर्वेषामाप रोगिणां चिकित्सार्वेवेदपणाल्यैव कियते । अत्र रानकीयसंसहतपाठ

 चीन एव वर्तते तथापि साम्प्रमयमौषघाळयः साषरणकक्षामेवावगाइते। यदे कथष्न सम्म-
 वति-ताट्यां सुविस्तृतं ₹थानं कृत्वा निकिस्साशास्बोकदिशा सर्वर्त्तसमुपयुकाः, सर्वविषीष母-



प्रठशाल|यामपि ग्रन्थाध्यापनकार्य यथासाधयं सम्यगेवानुष्ठीयते, परमौषधपरिचयरोगिनिरीक्षणशसर्तचिकित्साद्यनुभवविशेषाभिव्चड्धचर्थ मूयान् प्रबन्ध: समपेक्य्यते। तथा कृते तु काप्यवूवैवंव छटास्यादत्रस्याध्यापनकलायाः ।
(ग) अष्टान्नमिदमस्माकमायुर्वेदशगास्त्रमस्ति तत्र पचलितासु संस्थाब्डु केषांचिदेवाङ्गानां-ग़िक्षएचिकित्सयोण्यैवस्थापितत्वाव् तदर्य. क्रियमाणः प्रबन्षः कथमपि यथेष्टपद्वाच्यतां नाईति। ता यथेघ्षतां प्रापयितुं समपेक्षितानां प्रबन्धानामुपायानाश्ष केचिदिमे-
(१) भारते काचन सर्वाङ्रसंपूर्णा वृद्रसायनशाला कर्सिमश्थित् प्रदेश़ें संस्थाप्येत ।
(२) तसिमन्नेव प्रदेशो सर्वससाघनसंपन्नो विद्यालयोडपि मवेत् ।
(३) तयोश्च तत्त्कार्यमारमुद्रहन्तः केचन वैद्या वस्तुत एव विद्याविज्ञानातुभवादिभिः सैवरेव गुणैः संपन्नाः स्युः ।
(8) भेषजोद्यानानि तत्तदौषषोपजननयोग्येषु क्षेत्रेषु निर्माप्येरन् ।.
(१) छान्रा अपि सूक्ष्मविषयावधारणसमपेक्षितशास्त्रान्तरावबोधसमलङ्धृत्तमतय एव तत्र गृघेरन् 1
(६) प्रतिप्रन्तमपि तत्तम्रान्तावश्यकतानुसारमेताद्धश एव प्रबन्धः ₹्यात् ।
(७) एताद्दास्य महतोऽनुष्ठानस्य सिद्दये समपेक्षितः सुमहान् द्रव्यराशिः शास्त्रदेशोन्नति सर्पृहाणां मह।मन्यानां जनानामघिकारे स्थाप्येत ।
(く) पाश्चालया भिषज्यैव विज्ञानानुमतेति शासकैर्दुराग्रहस्स्याज्यः। एकैव चिकित्सापद्धतिः करे गृहीता लालितेति चाभिनिवेशः परित्याज्यः। अल्पठ्ययेन महाफला आयुर्वैदिकी चिकित्सापि सीकृत्य परिचेया परिचाययितब्या च । इति ।
(क) विमर्शकसामित्याश्रतुर्थे प्रस्तावे देशीयचिकित्साशिक्षायै य उपाया निर्दिष्टासते $\leqslant$ स्मांक पूर्णतया सम्मतः । देशीयचिकिस्साया यथेष्टारिक्षायै तेषां परमाव₹यकतेति च सीकुर्मःः । मद्रासप्रान्तपरिस्थित्या न वयं पूर्णतया परिचिताः स्मः । अतो वक्तुमशक्ताः यम्स्तावे निर्द्दिष्टानां विषयाणां प्रबन्धसौलम्यं तत्र कियद्वत्तेते, यदि तत्र पस्तावोक्तसाधनानि प्राप्याणि स्युस्तदा खलपेनैवोद्योगेनेदृशःः प्रबन्ध: संभाव्वते । अन्यस्मिन् कर्मिंश्रित् स्थाने ईटशः प्रबन्घोडस्ति न वेल्यन्र विषये अस्मदूट्टष्टी इन्द्र्र्पस्थस्थवैद्यकयूनानीशिएक्षाखये देरीयचिकित्ताशिक्षया सह प्रायशः प्रस्ता वोक्तानि सर्वाणि साधनानि प्रारम्मिकप्रबन्धंत्वेन प्रकलिपतानि । ईटगेव पबन्धो हरिद्वारस ऋषिकुले तथा बाराणसेयहिन्दुविश्वविद्यालये शीघं भविता ए एतदतिरिक्रोऽप्यन्यत्र कुत्रचिदीदृशः: प्रबन्धोडसित न वेति न जानीमः । अस्माकं सम्मतौ देशीयिचिकित्सायै एताद्धश एव प्रबन्घ आवइयकः । ईहदरो पबन्छे सम्भाव्यते यद्बहुषु स्थानेषु दु:साध्यता पत्रीयेत। परन्तु दुष्करतावशायदि कार्य न प्रारम्येत तर्हि कदाचिदापि तत्साधनसम्भावना नास्ति; सेवेष्वपि कार्येपु विघबाधाः समुपतिष्टन्त एव 1 यदि ईहोो पबन्धे आपतन्तीनां बाधानां निहत्तिर्दु:शक्कैव सीक्रियेत । तदार्यां स्थितावस्मिन् मते न निम्नोकाः प्रबन्धा विधेया:-
(१) येषु येषु प्रान्तेषु पाइच्याल्याचकिस्साशिक्षालयाः सन्ति तत्रेट्टश एको विभागः प्रलपनीयो यत्र वैद्यकं पिपठिषव:-तथा कृताध्ययनाश्र द्विविषा अपि छात्राः प्रवेष्टुमर्मर्यु: । शिक्षां विहायान्येकु कर्मडु पाश्भाल्यचिकित्साशिकक्षाछात्रणणामिव तेषां सामान्यं भवेप्त 1 शिरक्षायै चेदृशः: प्रबन्धः कार्यो यद्व द्वित्रः प्रधानाध्यापकास्ताट्रा नियोज्या ये नवीनपंद्धत्यनुसारं विशोषोपयोगि-

अस्मिन् प्रबन्धे विशेषकाठठन्ं च्ययवाहुछयं. च न पतीयेत। खल्पेनैब ब्यंयेनैष प्रन्ध:

 स्मः करिमश्भिच्चासम्मताः। सम्मता अरिमन्नंशे रमो यदाधुनिकविज्ञानेन सह सम्बन्ध स्थापयिजुं केचना-
 संशयों नास्तिं यद्यथा वैद्यद्वारायुवेदेदियसेद्दान्तानां सैंलम्प्येन डाकटराणामुपकारः स्याप, तथा डाक्टरीयसिद्धान्तानां डाक्टरद्वारा सौलक्येन वैद्यानामुपकारः ₹्यात् 1 असम्भता करिममंशे ₹मो






प्रच्चार्वःच्यचिकित्सापद्धत्योः सम्बन्धं संपादायुंडुं निम्नोक्ता उपाया अरमतसम्मत्या सम - : lwith
(१) देशीयचिकित्सापद्धतिच्छात्रा: परिसमाप्य वैद्यकास्रक्षी धाप्य चेमचिताइ्ठात्रश्धती:

(२) पाश्रात्य विकित्साछांत्रा यथा वैद्यकसिद्धान्तज्ञानमप्युपल मेरन् तथा प्रबन्धः कर्यः । (३) वैद्यक्रास्त्रमर्मज्ञा,मेहान्तो विद्यांसो ये हिं पाश्वाल्यििकिस्सासिद्धान्तमपि नानीयुस्ते वैद्यकग्रन्थीयसिद्दान्तविषयान् हिन्दींभाषायामनुवादरूपेण परिवर्त्तयेयुः ।
(8) पाश्रार्यनिकित्सकाश्र यें हि वैद्यकसिद्दान्तविज्ञातारः स्युस्ते डपि पाध्भात्यचिकित्सासिंद्धान्तान् हिन्दी भाषायाँमनुबदेयुः 1 एमिरुपायैरस्मन्मतेन सम्मिलितरीवे: सफबता सम्भाव्यते ।
 क्षेपयिंब्यन्नि ।

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 पाश्राल्यविकिस्सायास्तथा प्रच्चलितविज्ञानस्य च सम्बन्धः परमावश्यकः । परन्तु स रिक्षाकमस्तथा
परिप्कृतः स्यात , घथास्मांक प्राचीनशल्यश्शालाक्यतन्त्राणि पुनरुजीवेयुः भविण्ये चोन्नतिकमः सुप्रवृत्तास्तिष्ठेव्।

रिक्षा च तव्सम्बन्बिनी कियती किंविधा च मवेक्, तथा षरीक्षाश्र काः का नियोज्याः ?

 बना । शिक्षायाः परोक्षायाश्र्पेपदेशिक्याः प्रायंगिक्याश्भेस्युभयविधाया अपि प्रबन्ध आवइशक:।

 ते च यथा निर्णयेयु: तथैव पाठ्यकमो नित्रेशनीयः

आयुवेदविषयाणामुचरिक्षा संसकृतमाषयैव देया, तथा नठ्याविषयाणां शिक्षा हिन्दोभाषया
 शि़क्षा देया ।
(६) देशीयचिकित्सकानां नामानि फश्चिकायां (रजिष्टरे) अवखं निवेशन्नयानि। तस्यां
 परीक्षायामुत्तीणांश्र स्यु:, अथवा ये परम्परया बैद्यवृत्युपजीवनवशाव् चिकित्सापद्डत्यां निपुणा
 प्रान्तीयानामुपरिल्यिखितानामुभयविधभिषजां सूर्ची विघाव फ़्विकायां (रजिष्टरे) निकेशयेत्। एतत्-
 क्रियेरन् । ततसम्बन्धिभिः (रेजिप्ट्रेशन) नियमैर्बवपपरिचिताः । अतरतह्विषये न किंचिदापि लेखितु प्रभवामः। तन्नियमपरिवर्तन्तावसरे कतिपये महाभिषजः आमन्त्रणीयाः । (७) वर्त्तमाने काले प्रायशो जैर्नर्निर्विवादं मन्यत एव यत् पाशाल्यपरिपाघ्या उपकमणे




 महार्षतोचितैवैतिति स्पष्टं प्रतीयते।

देशीयौषधानि च परिमुक्तान्येवास्माद्दोषसम्बन्धाव् यतस्तान्यन्रैस उतपदन्ते निर्मीयन्ते प्रयुज्यन्ते bhaly



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डतिष्षत् । मुगलस|म्राज्यकाले तु ततोऽपि अघिकतरा क्षतिरसस्याः पद्धतेरभूत् । यतस्तर्मिम् काले यवनसम्नाजो ग्यूनानीयंचिकिस्सामुन्नेंतु विरोषात् प्रायतन्त । यावन प्रादुर्भावोऽभवत्। राजाश्रयबशाद्व यूनानीयचिकिस्साया विशेषरूपेण विकासोऽ मवत् 1 असिमन् परिवर्तने देशीयचिकित्साया महान हासोऽभवत् 1 पुर्तकाऊया अपि बहवोडरेमन् समयेऽनइयन् 1 तेषु सिथतानां चान्यशास्त्रीयम्रन्थानामिवायुर्वेदग्रन्थानामपि विध्वंसोडभवत् । मुगलसाम्राज्यान्तेऽपि कियन्तं कालं यावद्देश-: परिस्थितिरसमीचीनैवान्त 1 तदुत्तरं च चृटिशसाम्र|ज्यप्रारम्मोडमवत् । असिमन् साम्राज्ये आयुवेदीयािकिस्ताया हासक्रमस्य खल्पः प्रतिबन्धोडभवच्। किं च केचन तादृशा अपि हेतवोडडत्र समवेता अभवन् यैरायुवेदस्य, तचिंकिस्सायास्तदुपजीवेनां वैधानां च महानुपकारोडप्यभवत् । तेषां हेतूनां मुरुया इमे—
(१) अस्मिम् काले मुद्रणयन्त्राणामाविष्कारोडभवत् चेन यथाकथंचिव् अवशिष्टानां स्वल्वसंख्याकानामपि महोपयोगिनां केषांचिढ़ ग्रन्थानां पचारोऽमवत्। यद्येतेडपि ग्रन्था विध्वंसमगमिष्यन् नूनमवार्युर्वो निफ्फल: फल्गुश्रामंस्यत । परमेतेषां रक्षया 'प्रचारेण चाद्यापि शक्यते विज्ञातुमायुव्वेदगौरवम् 1
(२) अस्मिम् समये देशस्याशान्ती महती न्यूनताऽभवत् । शान्तिस्थापनेन च रिक्षां प्रति लोकाः पावर्तन्त । शिтक्षाया: कलाकौशलस्य च विकासोडभवत् । पाश्माल्यसाहित्यक्य भ्रारेंग ग़िक्षया च देशो जागृतिरजायत । ऐतिहासिकगेवषणार्मेदेशस्य गौरवं बुद्धिगोचरतां प्रापूमारभत । अनेके विद्वांसः समाचीनविद्यानां विवृद्य्यर्थ यनमातन्वन् । एवं च सर्वोडपि जनः खस्य क्षीणावस्थां परिरहर्ड प्रयब्नपरायणोऽभक्त ।
(३) किंचारिमन् काले पाश्भात्यानां विदुषां महता परिश्रमेण विज्ञानस्य सम्भावंनातीता समुन्नतिरभवत्। यद्बलेंन चिकित्सापकरणानां सौऊम्यबाहुल्ये अभवताम्। नानाविधानां चन्त्राणां, शारीरमानचचित्राणां, विविधभेदानां शस्ताणां, भेषजनिर्म।णयन्त्राणां च प्रादुर्भावोऽमवत् । एवेषामुपकरण़ानां व्यव़हारश्सिरम्रमुप्तान् वैद्यानप्यनांगरयत्। तेडपि सावस्योन्नयनाय समचेष्टन्त । चिरलुप्तानां बहनां विषयाणामनुसन्धानमारमन्त। एतैः समसत्तैरीि कारणैर्वैद्यानां दशीयचिकित्सापद्बतेश्ष महानुपकारोडमवत् ।

परमहो खेंद: । चत्रनताप्रज्य इवास्मन्नपि साम्र्रे्य चैद्यविद्या राजाश्रयं नालभत । बिटिशरा|सनविभागोऽपि डाक्टरीचिकित्सायःः प्रचाराय एव मह्नन्त़मवलग्वनमदद।त् । पाः्चात्याचिकित्सयैव पूर्णो राज्याश्रयः समघिगतः । सर्वेप्वपि प्रघाननगरेषु हासूंपिटिलस्थापनमक्रियत। कोटिशो सुद्रा अस्याश्रिकित्सायाः पचारपरिवृद्धर्य विनियोजिताः ; अनेकेषु नगरेषु डाक्टरीशिक्षणार्थ विद्यालया ठ्यवास्थाप्यन्त 1 लबछडाक्टरीविद्य|बोधानां भृतिक्यतस्था शासनविमोगेन स्वमेव सुसमुचितरूपेण विधीयते; ततश्र बहवो जना महोह्ताहेन शिक्षायामस्यां प्रार्वर्तन्त । अत्रत्याज्येप्वपि लिटिशझ्चासनविभागादेशानुसारं हास्पिटिला एव व्यवास्थाप्यन्त। डाक्टरीचिकिस्साया ऱाजनियमैः रक्षाSकियत। एवं नानाविधैरुपायैर्डाक्टरीचिकित्तायै बिटिशस्ताम्राज्येन सुमहत् साहाय्यमदीयत। बहुषु. स्यानेषु डु देशेयचिकिस्सापद्धतिमुपजीवाद्रि: सह कठोरा ठ्यवहारा अव्यकियंन्त । देशीयचिकिस्सापद्धत्ये सहायं दाठुं प्रार्थितश्र लिटिराशासनविभागख्वाह्यान्युत्तराणि अददात्, यैरस्याश्रिकिस्साया विषये विपरीतभावा: ₹पष्ट प्रतीता अभवन्।

एतै: सर्वे: कारणै: पाश्यात्यचिकिस्सात्र सुप्रचारिताडमवत्, येन देशीयचिकिस्साया उन्नतिपये महती बाधा समघटत 1 यद्यति पूर्ववर्णितैः कारणेः खत एव देशीयचिकिस्सापद्धतेरुपकारा

अप्यमवन् तयावि विटिशसाभ्राज्याव् प्रत्क्षरूपेण कोपि लापो नाभवत्। एवं च बौरकातादारम्य

 च 1 यदि देशदशाया एवादृशे। विपर्यासो राजाश्रयम्राप्यमावक्ष नाभाविप्यतो तरिं नूलेेष

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 भायः संहारमुपागच्छन्। चरकहुश्रुतयोष्टीकाकृद्रिरनेकेषां ग्रन्थानां नामोडेखः प्रमाणोस्दारश्न कृतः; परमहो कष्टं न तेषां चिछमाः्रम्य्यबखिष्येते । यबष्टझ्रवविषोे लिखिताः सर्वा अपि भाज्वानःः संटिता विद्यमाना अमविष्पंद्तर्हि वर्त्तमानकाले भार्युदेदे कियमाणा आक्षेपा नैवावकाजमलग्स्पम्त।




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 मवत्त। श्रिव्यगणा गुरुगह एवाध्ययनाय निवासं चक्रु। अध्ययनेन सहैव भौषघदर्शनज्ञानं,





 नामप्यम्यासो न्यूनतामगच्छत् 1 अन्बतश्र केवळं पुरतकाम्यासं वर्वयिल्या पत्यक्षिक्काम्यासस्य



आक्षेपा लब्षाषसरा भवन्ति 1 एवमनेन चतुर्येन कासेेन न केबलमाटुर्येषस्प क्षतिरेाभबर किन्डु हुविमलतरेडस्य यशःकाण्डेडपि कुकीर्तिकठड्रेखा पंद चते। उर्युक्तकारणचतृध्वाविरिकान्यन्यान्याप कतिपयानि क्षुद्रद्रद्रतरापि ताहशानि कारणानि संन्ति घानि निकिस्मालिेइसेते पहतीं
 पद्धतिर्तुमूर्ष्वमावमनुमवíते। एवामेदं साधारणवो दिग्वर्शनमाज्रम् ।

उर्युक्तविवात ककारणचतुष्टयनिराकरणपुर:सरं दशमप्रश्नेत्तर वर्मिनानामुपायानामषतम्बनकेबास्य पुनरुत्याने हेड़ः।

राजश्किः (सर्कार) देशीयचिकित्तोत्याने पाश्रात्यचिकित्सानुसारं बहु कड़ घकोति, थतः सैवस्याः पद्हल्या उत्यानपयनं विषानुर्महति। यदि त्विदानीमिदं दुफ्करं मन्येत तर्मि अस्मिन् समये यानि कर्माणि तथा सुगमतया संपादयिकं शक्यन्ते तानि चतुर्षा विभज्याधस्तान्निर्जिशयन्ते -
(३) शिक्षापचारः ।
(२) प्राचिनपुसतकानामन्वेषणं प्रकाशनं च ।
(३) वैद्यकविंषयिकाणां बिरिष्टमन्थाना माषायामनुवाइः । तथा बर्तमाननूभनविज्ञानस्पाि हिन्दीभाषायामनुवादः ।
(8) औषश्रिर्माणशालास्थापनं (Pharmacy) फॉर्मेशी.
(१) सर्वतः प्रथमं शिशक्षाया अल्यावइयकता तस्याः सौंकर्यार्य धत्र एकोडपि मेटिकळ
 शास्त्रस्य पूर्णारिक्षपपबन्धः संभवेत् । चिकित्सोपयोगिपदार्थस्मघ्रहाबयः, पुस्तकाल़यः, मैषज्यदिर्माणशाला, भौषषारयः, आवागरालय:,छात्रावास:, वनस्प्य्युद्यानं चेलेषां तथा सामयिकानां चिकिसमेपषेगिना
 विद्यापीठेन स्वाकृतां प्रणालीमनुसरेत् ।

अथवा-एका ईंदृशी समितिरभययास्त्रमर्म्जभिषजा प्रकर्येत या पाव्यकमं निलिनुगात् । उक्कसमिल्यां न्यूनातिन्यूना अर्द्रसंखूयाकाः सदस्या ईटहशाः मवेन्युर्ये निखिखभारतवर्षीयायुवेवेदविधापीठसदस्या अपि स्युः।

विद्याहुये भेषजपरिचयस्य रोगपरिचयस्य भेषजनिर्माणस्यी|धदानस्य चवच्ठेदसएक्टतर्य शारीरावयदसम्पार्ञानस्य यन्त्राद्युपयोगस्य चाम्यासः सैरैरापे छार्तै: कर्तैव्यः । पन्बु सहैवैवोडपि प्रबन्बो विधेयः येन कतिपये छात्राः भिबमिन्नविषयान् पठेयुः । यतः एक एव जनः सर्वकर्मुनु विशोषेण पूर्णाविज्ञां संपादितुमशक्तः। एवं प्रतिभान्तं एको महाविद्यारयः स्यापनीयः 1 भान्तविशाइनगरेषु वायुर्वेदश़शक्षाथ्थ पाठचालाः स्थाप्येरन् । यामु साधारण्या: गिक्षाया: भबन्षो भवेव् 1
(२) राजसत्ता कतिपयानामीदृशीं विदुषां समिर्मिं समायोजयेत्, वृत्तिमानादिसंतोषिता या मारतीयेषु बिमिन्नश्याने वैद्यकशास्त्र्थ्य प्राचानान्येवमपकाशितानि पुस्तकानि गेषेयेत् । तेप च यान्युपयोगीनि स्युभ्ताने संशोध्य मुद्धापयेत्त ।
(३) वैद्यकशास्त्रस्य मर्मर्ज्रोमषशिमरायुर्वेदस्योपयुक्तानि पुस्तकानि सरउहिन्दी माषायामनुवादयितव्यानि। सामयिकाश्र सिद्धान्ताः प्राचीनेषु आायुवेदेदग्रन्येषु सूत्ररूपेण वर्वितास्तेषां पचकित-

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विकारो धतुवैष्म्य साम्यं पकृतिरुच्यते ।
सुखंत्ञकममरोग्यं विकारो दुखवेव च।
तदुःखसंयोगाः ब्याधयः ।
इति चरकसुश्रुतवननान्यनुतृ, षातुवैषन्ं रोग: घानुसाम्ं चारोग्यं इति आायुर्वेदगनं क्याजिאक्षणं सुस्पष्टमेव । लक्षणमिदंद च सरेवरीे सुधियः संमानयेयु: 1 धरीरगतवैषम्मपूूल एव सर्वे रोगा ईल्य习 नन्यरास्त्रसंघबायानुयायिनामापि शंकावसरो न लम्येत । शररामनःशरीfr. (भात्मा) समवायः - पुरुष इत्युच्यते 1 तत्र आत्मा च निर्विकारः सुसनु:सरहहितः। मिजागंनुविभागंन तत्र रोगा द्विधा स्मृतः । तेषां कायमनोमेदादाबिषानमपि द्विषा । एवं रोगा अवि निजाः भागंतवः शारीराः मानसाश्ध एवं चतुर्विशःः पुनस्तेडवि सहजाः गर्मजाः जातजाः पीठाकताः कालजाः प्रभावजाः खमावजा हति समविषाः। एवं अनेकविधा अधि ब्याषयः गेषम्पमूल एव। "दोषा एव हि सेंषां रोगाणामेककारणम् ।" छति बचनेडपि केषम्यमेव रोगकारणं इ़्ति स्पष्टमे। तह्वैषम्यं च कस्मात् जायते इति पृंष्टें चेर्तार्हि

कालार्थकर्मणां योगा हतनमिध्यातिमाः्रकाः ।
सम्यग्योगश्र विज्ञेयो रोगारोग्यैककारणम् ॥
श्कोकेऽडिमन् रोगस्य आरोग्यस्य च कारणमतीव ₹पष्टतया चर्वितम । कालार्थकर्मणा हीनमिष्यातियोगैं: शररीरे वैषम्य जायते । तेन वेषम्येण च रोगाः मानुर्पवन्तीत्यत्र किमशास्तीयम । शरारगतानां धातूनां घटकावयवानां प्रमाणं च यावक्कालं समं स्याप् तावत्कालं चरीरस्य आरोग्यं स्यात्। यदा च शरीरघटकावयवानां चातूभमाहाराविहारादिकारणे: असात्मेन्द्रियार्थस्योग्र्जापराधपरिणामकारणैर्वो शर्रिगतवातपित्तकफानां चयपकोपप्सरस्थानसंश्रयनिमितकं घतु (दोष) वैषष्यं जायते तदा ठ्वाघयः समुद्रवन्ति । अस्य सविस्तरं विवरणं कलिकातासंमेलनाषिपतिभिः भायुरेवेदमार्ताण्ठपणिडतलक्ष्मीरारामस्वामिभि: प्रथमद्वाशपृष्ठपर्यन्तं कृतम् । तत्तुर्धािर्मियावसरं च्रघण्यम् । अरिमन् सिद्दान्ते किमप्यशास्र्रीयमसमर्थनीयं वा न विद्यते। गुणलक्षणकार्यात्मकं दोषाणां वर्णनमायूर्वेदीयम्रंथेषु बहुऊतरममुपलम्यते। परं बस्तुरूपनिदर्शंकं तेषां वर्णनं न हथयते। घलो वातपित्तकफा: काइ्पनिकाः न तु शरीरगताः शरीरषातव इति पाश्रात्यवैदझशास्ताबिदुषामन्यथाप्रहः संजातः। तेन विपरतीत्रहहेण च नानाविघा आक्षेपा उपन्यस्वन्वे। वस्तुतो विचार्यमाणे दोषा अपि घरीरगताः अवयवा इति सुस्पष्टम् । दोषशब्दः आागुर्वेशयमंभेषु केनार्र्येनोपयोजित इल्यस्य प्रश्भस्य निर्णय:, दोषशब्दस्य निर्देश आयुर्वेदे थेषां येषां शब्दानां साएन्र्येग छृतो छइयते तेषां सरेवां समुछ्यविचारेण भविष्यति । दोषधातुमलमूलं हि शररों, लचः कलाः घातःः दोषाः मलःः यकृतृक्ठीहानौ इल्यादिवचनेषु दोषाणां निदेशेशः कृतः। समानानामेव हि भायेण सममिब्याइारा भवन्ति । यदुपरिनिन्दिष्टवाक्येषु घातुमलै: सह दोषशब्दख्व साहचयं दरीटइयते न तलेबकं संख्यानाथः प्रत्युत बिशिशष्युणकर्मसाम्वस्य्यापनार्थम् 1 पुण्यप्तनीयमहाराप्रवैद्यकपाठशालाधापके:
 पठितः। तस्व समारोपः सवैँ: भिषववरैरवखं मनसि निधेयः 1 समरोपाने दोषविषये यः सिद्धन्तः साररूपेण सर्वेषां विचारार्य तैरुपन्यस्तः सोडग्रतो दीयते। दोष्प्यनुमल़ः चरीरावगवा
 तर्रिमश्य संभहात्मको वर्धनात्मक: विशरणाइ्मकश्र ब्वहहारः कायतनुश़र्रारशब्दक्योगेंणादगम्पने ।
$8 \varepsilon L$
 स्तेऽपि पांचभैतिकाः सेन्द्द्रयाः सजीवा इति वक्डं न कोऽपि संशयः,। तथापि तेषां अस्तिलंं अनुमानेनैव सिध्यति ।
(आ) आदौौ निदानवेविधिना विदध्याद्रोगनिश्नयम 1 ततः कर्म मिषक् पश्शात ज्ञानपूर्व समाचरेत् II.
रोगं निदानपाग्रूपलक्षणोपश्शयाषिभिः । दर्शनस्पर्शनप्रक्भः परीक्षेताथ रोगिणम् $\|$ इति श्रोकेषु रोगनिदानं कथं कर्तव्यं चिकिस्साकर्म च कथं करणीयमिति संक्षेपतया वर्णितम् ।
 च आवुरगृहमभिगम्य. उपविइय आातुरमभिपइयेत् स्टृेत् पृच्छेच । त्रिभिरैरीतिज्ञानेपायै रोगा:
 श्रोत्रादिमिः पश्नेन चेति । तत्र श्रोंत्र्न्द्रयविज्ञेया विशेषा रोगेषु व्रणास्तावविज्ञानीयादिषु वक्ष्यन्ते 'सफेने रक्तमीरयन्ननिलः सशब्दो निर्गच्छति' इल्येवमादयः , स्पर्शनेन्द्रियविज्ञेयाः शीतोष्णश्कक्ष्णकर्कशगृदुकाठिनल्नादयः स्पर्शविशेषा ज्वरशोफादिषु । चक्ष़रिन्द्धियविज्ञेयाः शरीरोपचयापचयायुर्शक्षण-




धानुसाम्यक्कैयैवायुवेंदस्य प्रयोजनम् । अतः चिकित्साकर्मसमये वैद्यस्यैतत्रधानकर्तव्यं यद्रोगिب ب Nㅜㄹ



 -
 कर्माण सुविमलकीर्तीच्छुभि: भिषग्वरैः कि किमवइंय करणीयं इत्यधोलिखितर्रोकद्वये सम्यक्तया प्रतिपादितम -

$$
\begin{aligned}
& \begin{array}{l}
\text { दूष्यं देशं बलं कालमनलं पक्रांति वयः । } \\
\text { सलंत्वं सात्य्यं तथाडSहारमवस्थाश्र पृथव्विधः ।। }
\end{array} \\
& \begin{array}{l}
\text { सूक्ष्मसक्ष्मा: समीक्ष्यैषां दोषौषषनिरूपणे। } \\
\text { यो वर्तेते चिकिस्सायां न स सवतुति जाडा }
\end{array}
\end{aligned}
$$


 यिड़ं सिद्दोडस्मि ।

## 

द्र०वाभावाद्वेद्यालयादिकानां कार्प्रसारोडतीव कष्टपायः संजातः। पतितातुकात्रामं भीषषालुय एकः प्रतिजिल्हार्थानं च आठुरालयसमन्वितो बिद्यालय: आवरयकः । स ₹ बन₹प्नुषात-

(इ) एवंविधानां सं₹घानामभावे आयुवेदस्य कर्मपथाम्पासहिक्षादानं कस्टरंरं संजायदे। अतो विद्यमान्यव प्त्यूहस्य निराकरणमादी करिप्यामि। बर्तमानायुवेंदेविद्याउयेयु पवर्लमाना गिक्षण-


 फलतेजसा यदातमनो मास्ररतां भास्तयि तः भानीनायुवेंदीयरिक्षापद्बतिरेव पषानं कारणमिति न

 कृते गुरुपरपराशिक्षणज्ञानपद्यतिरपरिपूर्ष्युत्चरितुमहं न पमवामि।

(आ) सांपतभेतघ्घेयुदान्त्त वर्तमानदगायां कि कि करणीयं के के चोााया: समुपयोजनीया इत्यस्य निर्णयः सेमेलने एव भविष्यति ।

## १. कर्厄िकाताविश्वविद्यालयनियुकसामितिमताड़्रिन्ं मे मतम्।


 मिल्याग्रहो न युक्तः। आगुरेदेदवियापीठशिक्षणप्रणाल्युतुतारेण शिशक्षणे संस्चितया दिशा संमेलनमतानुसरोण||िका परीक्षा उपाधयश्न निर्मिता मंवुचु: । समवसीतदेर्शीयदिक्षण干मस्व अधीतपंच-
 स्यात् । अघ्ययनमाषा च गीर्वाणभाषेपष்ंहिता देशीयमाषा स्यात्।

 सदो (च) नियमानुसारेण ये बैद्यसमासदो भवितुपर्ईन्ति तेषमेवान्र संग्रयनं मवेत।

く. पाधात्यदेशीयदैयद्यकपद्धतररनुसूट्य परर्तितौषधालयातुरालयक्ययस तौलनिकपद्या कृतेन पर्यालोचनेन सुप्पष्टं सिद्यति, यत् रोगिणमेकमुद्दिशय देशीवीषधालये चतस्तः कला (4 pies) आारम्य नवकला ( 9 pies) पर्यन्तं व्ययो दृइयते । पाश्रात्यविकित्साठ्ययस्तु अष्टकला ( 8 pies) आरम्य द्विकलाषिकाणकत्रयं (3 annas 2 pies) विद्यते। पुण्यपत्तनीयम्युनिसिपालिटीसंस्थासंभवर्तितीषषालयानुद्दिश्याहमेतत् साधिकारं चबीमि ।
९. आयुर्वेदस्व हानि: कथं संजाता बदन्युदयार्थ च के के उपाया: समवलंबनीया इल्येतद्विषये न कोड\{ि विवादः । पूर्वतनैः सभापातिभिरस्य विवेचनं कृतचरमेव।

(१) राजशासनसमासु आयुबैदेदीयवैद्यानां सभासदत्वेन स्वीकारो भवेत्।
(२) लेकानां प्राणत्राणार्थ Яतिताड़ुकाग्रामं देशीयवैद्यपद्धतिमनुसुत्य औषधरलयः पचलतु।
(३) म्युनिसिपालिटी डिस्ट्रिक्ठबोर्ड इत्यमिषानां स्थानिकसंस्थानां आयुतेनीदीयौषधलखयविद्यालयादिकार्यार्य जनताषनव्ययस्य यथारुचि सातन्यं भवतु।
(8) आयुर्वेदीयातुरालयौषषधलयविद्यालयवनसपत्युद्यानभेषजसंप्रह्लालयसंदिग्घीषधनिर्णयः। रसशालाग्रन्थसंग्रहालयेयादिनानाविधसंभारोपकल्पनं अयुवेदेदार्थ भवतु ।
(५) पाध्रात्यवैद्यनामसंग्रथनशासनजनितविद्धानां दूरीकरणं मवतु ।
(६) विषोपविषादिदेशीयवत्तुसंपादने विद्यमानशासनजनित।विघा दूरतोपसार्यन्ताम ।
(७) अमुद्रितयुवेवेदीयाप्रसिद्यग्रन्थानां संशोधनं मुद्रणं च़ भवेत्।
(く) अस्वास्थ्यमुद्दिश्य भिष्वरैः प्रदत्तो लेखो राजकार्यालगेषु सम्मानितो भवेत्।
(९) कमिकशिक्षणपुस्तकेष्वायुवैदैदीयपाठननां समावेशो भवेत् ।
(आ) (१०) अधीतायुवेदानां भिषग्वराणां पाश्रात्यवैद्यशशस्रनिष्णातानां च भेदबुध्या यथा राजकार्याऊयेषु राजानुमोदितसंस्थासु विषमळ्यवहारा न भवेयुस्तथा सर्वथा प्रयतितव्यम्।
(इ) (११) लोकमतानुसारं कार्यार्थ म्युनिसिपलसंस्थायां लोकनियोजनसमये पाश्रात्यवैद्यशास्त्रनिष्णातनामिव बैद्यानामपि मताधिकारो भवेत ।
(ई) विश्वविद्यालयसंस्थाश्शायुर्वेंदं संमानधित्वा प्रदत्तपरीक्षाणां विद्यार्यिनां उपाधिवितरणं कर्यु: ।

आयुयेद्वीयग्रन्थान् संशोधनवूर्वकं संमुद्य अप्रसिद्दग्रन्थप्रकाशकायेपायनदानेनान्येन वाऽम्युपायेनाइनुग्रहं कुर्युश्र ।
(उ) आयुर्वैदाभिव्टद्धिमभिवंछद्नि: पुरुषैरितरसंस्थाभिश्न यद्यत् शक्यं तत् सर्व सर्वासमना संसाघनीयम् ।

प्रश्नोत्तराण्यतीव संक्षेपतया प्रदत्तगनीत्यहं जाने । अस्यां प्रश्भावल्यां द्वितीयम्न एव विवादास्पदम् । तस्य विवरणं ब्याख्यानं च सतन्त्र्रबन्धरूपेण करुतुचुतम 1 तथापि कलिकातासँमलनसभापतिभिः सप्तवर्षाव् प्राकूकृतमभिभाषणं मद्रासदेशीयवैद्धविमर्शकसमितिद्दितीयप्रश्नमुद्दिएय

लिस्तितमिवावमातते। अतश्र मया तस्य निदेद्यः कृः । आर्युत्दीयीयन्यन्येड पतिवादितानि करमहामूतानि अपराणि च न्पायमीपांसादिप्रन्बे ध्रविपादितन्मन्यानि तच्पानि संमतानि न बा विणादार्थपपपादितप्रमाणेछ भल्यक्षानुमानादिप्रमाणाने च संमतानि न वेल्यज्ञात्षा अस्प विदरणं निरर्यक्ण। त्रिदोषसिद्यये च आगमप्रमाण सीकार्ये। नोचेत्व तत्तहिसदिर्नि भवतीवि न केनापि घतिपाषते। आागय-

 लोकानां मिषववराणां चानुभवेन सा उपयुक्ततमेति सिद्दम्। अर्वरचीनरसतन्र्रानुसारेण हरीतक्या (Tannic Acid) नामकः पदार्य उपलम्येते। तस्य घर्मध्र स्तंभकः । परं हरीवषी विरेच्यतीति

 सूक्ष्मसूक्ष्मतयाइनुभवा वर्णिताः। एवं अनेकविषाः प्रभ्नः सन्ति। तेषामूह्वापोहः उद्राटनं वा अल्पावसरे कर्ड़ अशक्यम् $i$ ॠेष्मकज्परेण संकामकरोगेण पुण्यप्तनं यदा समाकान्तमासीत्तदा पुण्यपत्तनीवैः भिषग्वरःः किमपि वेठनमगहीता आयुर्वेदीयाइडुालयो प्रचालितो । तो ₹ लोकानो तथा विश्धासाही आदरपांच च संजातौ यथा समीपवर्तिनं पाश्रत्यवैद्यकात्रालयमपपाय छोकाः आयुर्वेदायाइ़्रारयं वरतरं मत्वावलम्बयामाडुश्रिकित्सार्थम्।

COCHIN.
(3) M.B.Ry. VASUDEVA NAMBEESAN Avaraal.

श्रीमत्पूज्युगुरुपदेद्यो नम:-

1. आयुवैदेदाम्मकं विभागमधिकृत्य विचणोमि.
२. (ऽ) अस्मच्छास्ते दोषपदवाच्यानां, वातपित्तेश्रवमणां, तद्दारा धाइुसंज़्जिवानां, रतरकमांसमेदोमज्जाडत्थिरेतसां मलानां शकृन्मूत्चसेदादीनाष वैषम्याहूप्याणि च, सतेषामपि रोगजातानामुत्पत्तिरिति परमस्सिद्यान्तः।

तर्दि दोषाणामिव घातूनां, मलानां बा रोगोत्पादनेनासित स्तनन्त्रा शर्तिः। उथापि, द्वितायस्य घतोशशोणितस्य केषाश्बिदामयानां उत्पादनं प्रति खतन्त्रा शक्किरस्तील्येव बाच्यं, धनुभवानुरोधाए $\mid$ स च अनुमवो रक्तपित्त मद बातशोणितनेत्रोगादावस्ति ।

रेंषैर्घाउुर्मिर्मैब्वा येऽत्न केचिद्रोंगा नायन्त इत्युच्यते तत्र तत्तद्रातुमलानाश्रित्याऽविकं तेषां दुष्टिमापाब च दोषा रोगनुत्पाद्वान्ति इलेयेव तात्पर्थार्थः।
 वृदेंवे मायझो हेड़तदर्शनात् सैव विमज्यते-
(१) सश्थय:; (२) प्रकोप:, (३) पसर:, (४) स्थानसंश्रय:, (१) व्याधिदर्शनें अय वा व्यक्तिः, (६) दीर्षकाहानुन्धावदरणभिन्नो भेदः। इति तस्याष्बह् मेदाः ।
 र्गतस्य, प्रागूपस्योत्पत्तिर्भवति, ततःपरं रोगोल्पत्तिर्जयये, स एव छ्यक्किर्नम भेदः।

एवंविष叉ष दोषवैषम्यखय, नानाविषानां हेतूतां विवरणे कियमाणेऽतिमाभ्रविस्तरस्याSपरिदार्यत्नात्ञान्सामान्यतस्समासतश्र बिवरिष्ये ॥

कालार्थकर्मणां हीनमिथ्याडतिमात्रका योगाः वरतादिततद्दोषषर्द्रकासित्तिकेषणादयोडत्युपयुका रसाः, तत्तत्समानगुणानि द्रठ्यक्रियाजातानि च, सामान्यतर्समासतश्य वैषम्यजनकानि ॥।

येकेचिद्वहुविःा असंख्येया ठंगाधय उत्पद्यन्से, तत्र सर्वत्रापि दोषणां तत्तद्रूक्षत्वादिस्वरूपलक्षणानां,
 नाभांविव्वात् । तत्तद्दोषविपरीतगुणानामौषधान्नविहाराणामुपसंवनेन रोगापेशमस्य प्रत्यक्षतस्दत्वाच दोषा एव रोगकारणातीति निर्णायन्ते।
" कारणनाशाल्कार्यनाशः " इति नैयायिकसिद्दान्तस्सर्वेषामप़ि ,ग्रन्धकाराणामकमत्यषैधेत्धु हढ: मुपोद्व हयाति च॥
 तदन्तरा वृद्घाविव तत्तदवस्थाविशेषा; ज्राह्या ठ्याश्रयो बा न संमनान्ति ॥

सर्वदापि देह्मभितєसरतां रसादोनां आार्गवैगुण्येन यदि गतिः संरुच्घते, तर्हि तत्तद्दे्छावयवैकदेशेष्वपि बहुविघ विकारा जायन्ते ॥

नवीनपाश्रात्यर्शास्त्रानुसारीभिसतदीयशास्त्रज्ञानान्वेषणपमगणमनुसृत्य सुनिरूप्यमाणानां अप्यस्मच्छार्तरीयवादानां, ततासिद्धान्तानां वा नैव कापि क्षतविस्संभविता सुपतिष्षा संभविता च। तर्हि नवीनैः प्रत्यक्षस्थैव प्रमाजत्वमंगीकियते, पुरातनैरस्मच्छास्तकारैः अनुमानादीनामपि तथत्वं सीक्टतमास्ते,


तथांहि अभ्रत्यक्षो वायुरिति कश्रन पदार्थो रूक्षत्वचलनादोभिएलैगै: अनुमीयते। तदाश्रित एव सर्वोडपि कायिक शृनात्मको व्यापारः। देहे विद्यमानानां सर्वेषामपि वस्तूनामेकतोन्यत्र गमनमप्येतत्सहकृतमेव। एतत्सहकरणाभावे सर्वाण्यापि वस्तूनि निश्रबान्येकत्रैवाव@िषेरन् ॥

एवंविधस्य वायोरम्रत्यक्षत्वान्नःीनैरस्याधारमूतः प्रत्यक्षवेद्यश्न स्नायु "nerves" रेब तर्स्थाने वयवहियते $\|$ स्नायुशक्तिः "nerves foroe" इल्याधुनिकव्यवहारेण या विषर्यीक्रियते स एवायं वायुः ॥

अस्यैव सकलजगत्सृष्टिस्थितिलयहेतुतं; एवमन्येषामप्यस्मच्छास्त्रप्रतिपादितानां पदार्थानां सरूपं


अपि च चराचरात्मकस्यास्य सर्वस्यापि जगतः पन्षमूतेरवेत्पप्त्तिरोति सरैषां सिद्धाःतः ॥
तदन्तर्गतवाख्वमिजलान्येवात्र, वात पित्त श्रेणमप१ँ: ठ्यवहिएयन्ते। शेषयोराकाइस्तु वायुत्वेनांगीक्टत आस्ते॥ पृथिठ्यास्त्वत्यन्तर्थूलत्वात्तजन्यन्य देहांशस्य वारवादिजन्यांशस्येव सव बिकृतिर्जायते $H$

कारणीभूतवाख्वाद्यंशविक्रत्या तु कार्यूतदेहस्य विकृतिर्नाश एव वा सभवति ॥
कार्यणां कारणानुमृतोत्पचिविनाशशशालिख्वात्, कारणवैचिम्यमयुक्तादानंत्यात्, कार्यमूतानां रोगाणां सरूपछेत्वादिविवरणपूर्वकं संखूयायाः इयत्तया परिगाणितुमशक्यत्वात्, तथा क्कियमाणे तु, कदापि शास्त्र्य परिपूर्तरसंभाव्यत्वात् च, अस्मच्छास्त्रे क्टहानां केषाश्चिजरादीनां क्याषीनां निदानादिकं वर्णयिल्वा, समानां, चृद्धानां, क्षीणानां, उन्मार्गगामिनां पुनश्न विचित्रामवस्थामुपगतानां च रोगकारणीभूतननां दोषादीनां बहुविधलक्षणरूपादिवर्णनेन सकलरोगपरीक्षणेपायः पद्रीर्शात आस्ते शास्त्रेड₹माकम् ॥

नरीनैस्तु वत्तत्कालजायमानानां बहुरूपाणां रोगाणां तदा तदा लिदानादिकं निरुप्यते $u$乡ष डपकम एवाधुनिकानां शास्त्रस्यपरिपूर्णताया हेतुः ॥ एवंविधध्योपकमंस्य यावत् स्थिति: तावच्छास्त्यस्यरिपूर्णता च सथास्यति ॥
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 विक्टतिमन्नरा ठ्याषयो नैव संमवन्ति II तहमःत्तमेवेषामप्यामयानां उत्पत्तितमकाबमेव किमयभ्षोत्वषन्व इल्यायातम् ॥।



(बि) तत्तद्रोगाणां निश्रयात्मकज्ञानजनकलेन ब्वीषिनिश्रयकरणात्मकेन निदानशब्देन,
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इल्येत्रश्रतुर्भिरव्युपायै: सुपरीक्षितेप्वप्यामयेषे तत्तहोपविशेषाणां तचदंशाना सतन्न्परतन्त्र-

वात्संभापिरिप्प्यलन्तोपयुक्ता भवाति ॥





 प्तित्वानां ठयंधीनां ज्वराघाः, इल्योनेन्ये चैत्त्सधर्मणस्सरेपि निदानराब्दवाच्याः ॥
एवंविधैर्नानारुपैः करणिः अविकतौ देहस्य सार्थ्यापादनेनानुग्रहं कुर्₹ाणा दोषा विवित्रूप१ा

 दुःवानि पीडाविशेषांश्र जनयन्ति। एवंविधा एव दोषाः प्रतिनियतस्थानान्युपग्य रसायनीजिस्तदु:खसंयोगस्तरूपानुव्वादयन्ति पृथकृविधानामयात ।


 इति सुस्प्ष्टमासीव्व।
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किक्षतःकालोत्पत्तिकेष्वलसकविषूचिकाद्येण्वामयेषु, रोगगोत्पत्युत्तरकालेत्पत्तिकदोष्ववेषम्येष्वागन्तु-
कठ्याधिषु च प्राग्रूपदर्शनं न संभवतीत्युक्त्रभायक्ष ॥
पतियोंग पूर्वरूपाणां यदि विटतिः कियेत, तर्हिं दुस्सहविस्तरस्यापर्हहर्याव्वाल्केवळमेकस्य बस्य विवरणेन बिशिष्य पयोजनाभावाच पूर्वरूप्रूरूपन्तानजनकं किमीप पद्यमतोोन्नीयते-" 干थानसंश्रयिणः कुद्धाः भाविव्यापिपवोषककाः । दोषाः कुर्वन्ति यल्खिगं पूर्वरूं तदुन्यते ॥" अथवा अविद्यमानस्य व्याषेलैगममिलेयासु, सर्वथा तत्तद्रोगेत्पत्तेः पूवं रुद्यमाणान्यालस्यादीन्येव पूर्वरुपपदचाच्यानीत्यायातम् ॥

 द्विधा विमजनीयं सामान्वविशिष्टमेदेन तल्फलमपष तद्ददेव ॥
कुविददोषाणां गतीवैचैचियात केवलं दोषादीनां रृद्बिक्षयाम्यम्च्च कृषेम्यो न्वरादिम्पोडन्ये बहुविषाः


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अच हेडुपेन रोगान्प्रति स्वातनयेण हेतवो दोषाः, रकं, तद्वारा कारणतां गच्छन्तश्शेषा

वतुल्यगुणान्यन्मानि च ग्राह्याणि ॥
 उघुलादिगुणवन्नागरादीन्यनशानादीनि च वातोत्थरोगेषु पट्वादिरसा;, गुरुल्वादिगुणवन्ति द्रव्वाणि,




 न्यौषधकालादीविन च होताविपरतिनन्बमूवन्येव ।
आम:—एव तु प्तित्वन्यस्य देहोप्मणों हीनबकतया पदुष्ट आद्यो रसघानुरेब। अमुरे-
 कलान्च कोडपि पदार्थविशेषस्संजायत इति निर्विवादमेव।
तत्संपृका दुष्टा दोषा:, दूष्या:, तथाविषदोष्दूूप्यसमुत्था रोगाश्व सामा इति शाखे ब्यव-
एवन्तु हेतुविपरीतानां तत्तद्रोगविनाशने नास्ति सतन्दा श़्किः। किन्तु हेतुविनाशनद्वरा नक्तक्कार्यम्तरोगोच्छेदने शांक्तरासि ।

 रूपो व्याषिर्नश्यत्येव । कारणनाशम न्नरा कार्यनाश़ानुदगाद्रत्यनकित्वे 5 c १ेतेषां पभावान्ट कारणविनाशकत्वमनुमीयते।

उमयविपरीता:—एतेषां वितरणे कियमाणे मुख्यतया बक्तठ्या वावजश्वयx च्रदी दश्गमूलकाद्या
 ₹ सन्ति 1 गुणैरम्रत्यन्नकले ऽपि पत्यनीकार्थकारिणो ये औौषाद्याः ते विपरीतार्थकारिवर्गे डन्तर्भवन्वि ।


अथ ब्याषिविपरीतार्थकारिण:—वमने बिचद्दे पर्वर्तमाने वमनकारका मदनाद्या: । षम्या


मद्यपानोल्थे मदात्यये, मद्यपानं, विहारः, ठ्यायामजनितसम्मूढवाते, जलपतरणात्मको ठ्यायामः ।

(१) सम्प्राद्वि:-तैसतैः प्रदूषकैरेवं दुष्टेनैवमेवं पकुपितेन पुनस्ततद्रोगाधिष्ठानगामीनी रसा-

 न्बाचतुर्देराधा भवति केवलं रक्षश्चेति पश्थदराषा।

सा तु सम्भासिः, संख्या विकर्पप्राषान्याप्राषन्यबलाचलकालविशेषतो विषिद्यते । तत्र




 इत्ययं सम्राप्तेः संक्षेप: ॥





अत्र दर्शनस्पर्शनपरीक्षयेषु नाडीमूत्र शकृत् जिह्धा शब्द स्पश हक रुपाणीत्यस्टस्यानानि


यथावस्सुपरीक्षैतैरैतैरापे रोगणणां क्फुटतरं ज्ञानं स्याव्ं॥
 लिखित कमप्युपन्यासमुपहत्तुमभिऊषन्ननेन सह तस्य कथिदादर्शामपि प्रेषयामि स श्रीमद्रिस्तथात्वेनाठीजीक्रियतां छाते -पप्रश्रयमम्यर्थये भवतः ॥।

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 प्रदुष्टमांसायुत्पन्नानामरोंड्डुद्रग्रन्थिपभृतीनां शस्त्रक्षारालि|िः: छेदन पाठन अपसारण पाचनाबिका






 चकासानुसीरीचिकिक्माकमजन्यास्सामiन्वा गुणः।
 एवानुमवगोच्रारसंभवंन्ति।









३. (ए) उब्बको उस्सम ॥




 काराडुपगन्तव्पमू ।।

> (सि) नैवाभिभेतम्।

> न्यूनतापर्दरणोपायद्लित्थम् --.


स्सार्दं पूव्वोकवैद्यम्यलानिकट एव पाठचालानां संस्यापनं च सर्वमौमराजमुस्वे: अवश्षमेब कर्तन्यम्।
 प्रदेयश II
8. (૬) अस्य विमागस्य १, २, ₹ घलेयेपु सण्डेप् विदतानि कार्याण्याबइयफान्येके लस्माकमाययः ॥

अस्पिन् संस्यानेन्य्यत्र वा एतामुत्तमावर्थामुपगतं संस्धापनमस्ययवाडचिरात्संमविप्यतीति च वयं न विघ्म:।
(बि) (३) पूर्व (प) विभागस्य खण्डात्रितये प्रतिपादितैः कार्यैः सहित भादर्या एवान्ततः साधनीयः ॥
(२) आधुनिकवैद्यहैः प्रयुज्यमानस्रि|कित्साकमो ययाषीतस्य घुक्रसस्याव् तथाविषामषीति प्रदतु योग्यः पाठरालासंस्थापनात्मक एव तत्कालुविछेय आदर्शः ॥
9. बयमनुसरामः ॥
 रोगविज्ञानविवेंचनोपाय:, चिकित्साकम: इलेतेषां त₹्वविष्वकं ज्ञानं परस्परं आंग्रायुर्केदचिकित्मकेषु सुर्थियरतया संकामणमेवेति वग्माशास्महे।
६. बयमनुसरामः ॥

अम्यसनीयविषषयनुकमणणका-
(१) अष्टंगद्धदयाख्यो गन्थो मुख्यपाठचपुस्तकतया कार्यः।
 नबीनशशास्र्ररीया सविनतरं सुपरिरक्छतानि तत्तद्रागान्यांग्रैवद्यकेम्योड्युन्नीयायाडम्पसनीयानि ।
(३) उपग्रन्थतयाऽष्टांगसंग्रहः सीकार्यः ।
(8) अपि च, पसिद्दानामाधुनिकवैद्यजनैरुपुुज्यमानानां सिद्दानां च काथादियोगानiं कोडवि संभहो हददयेन घारायितव्यः।
 परिराकलनीया।
(६) अनुग्रन्थतया कोऽपि द्रव्यगुणनिरुपणग्रन्यश्च नियम्वः।

> एत्तन्तर्वं वक्ष्यमाणभथमकक्ष्यासाद्यम् ।

ह्वितययायान्तु -
(१) अष्टांगसंग्रहार्यो ग्रन्थः पाठचचुस्तकेषु मुर्यतया नियम्वः।
(२) तदनु चरकसुश्रुता च 1
(३) तदा शारीरशास्तशशस्त्रयेगादी पूर्वाधिकं विज्ञानं संपददनीयक्न।

तृतीयायां पुनः
(8) चककडुश्रूतौ पाठचेषु मुख्यतया नियम्यी।


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（३）तदा सरेषेामपिवैद्यशास्त्रीयतच्वानां，परमसिद्दान्तानाश्च कोऽपि विशिष्टतम：सरूप－ बोधः प्रसंगात्मिकयोपपदेशपद्दत्या समुत्पादनीयः तद्योग्गग्रन्थविभागम्रदर्र्चनपूर्वकम्।
（ए）अभ्यसनपद्धतिः त्रिषा विमजनीयेति वयमाशासमहे। तत्रादिमपद्दल्यां विजयं पाष्षानां
 （बि）गर्वाणणाषायां प्रवीणे। मुक्तावल्यन्तमधीततर्कशास्तश्न पुमांत्तत्रादिकक्ष्याप्रवेशाई इस्यस्माकमाशयः ।

प्रथमकक्ष्याम्यसनकालो वर्षोत्रतयात्मकः। समाद्वितयरूपो द्वितीयकष्ष्याम्यासकालः। तृतीयकष्ष्या－
म्यासकाइस्तु एकहायनात्मकश्न ॥．


तह्मघुनातनांनां लउघप्रतिष्टानाश्ष भिषजामनेनोपकमेणापकर्षो मास्तु ।
 तत आदावेव तंत्तदशपीरवढढमुखेन देशीयाषिकृतमुखेन च योग्यतामधिगम्य ताद्धशानां
नाममुद्रणं विघातव्गम् ।

पुनः कष्द्यासु विजयं प्राप्तानां योग्ग्रतापत्रप्रदानावसरेषु नाममुद्दणं सुकरं स्याच्च ।
（ए）वैद्यानां नाममदापणiिषये कोऽपि संघो नियम्यः，तर्हि मिषग्भिरेव तत्संघांगैर्माव्यम ॥ ८．देशीयक्रमानुसारेण चिकिस्सायां कियमाणायां द्रंघन्ययंこती०लधुप तरो मवेप् । तत्रोपयुज्यमानानां औषधानां स्वदेशोत्पन्नत्वात् खदेशसंस्छतत्वाचंग्लेयमेषजापेक्षया

अपि च，आंग्तबैद्येम्यों देशीयवैच्घेम्यश्राधुना दीयमानस्य वेतन्द्रव्यझयापि सुमहानन्तरो
विद्यते। एष चापरो हेतुः ।
किभ्शंग्रबैद्यानां चिकिस्सायामुपयुक्ता अन्येडति पदार्थाससरें विदेदेरीया एव ；त₹माचेषां मूझ्यमपि गुरुतरं भवति। अयमप्यन्यो हेतुः।

९．राज्ञां राजकायानां राजतुल्यानां अन्येषामदि स्वामिनां चिरकालारषोडनादर एव हेतुरित्यस्माकमाइाय：। अस्मिन्ननादरे तु कालस्यैद हेतुत्वं कश्पनीयम्। कालपारवर्तने तु लोके विद्यमानानां सर्वैषामपि मावंज़ां ृृ्दिक्षयौ विचित्राव्लोक्येते। यथा चन्द्रादीनां；तह्रत् काल⿱ाक्यायमायुर्वेद－ चिकित्साकमोपि ।

> पूर्वोक्तानादरद्वारा परिक्षीणतामुपगत इल्येवास्मदाभिसन्बः ।

इदान्नन्ल्लेताढशोद्यमदर्शनेनस्यायुवेदीचिकत्ताक्रमस्येत्तमदशाप्राप्षिरचिरात्संभाविष्यतील्याशग－ ₹्महे ॥




चिकित्सितन
तिरशीतिवा।
चिकित्सितेन सामान्यतया सर्व एक रोगा निवार्यंन्ते। तदुपपादक्संख्याश्र पतिशठं पषसमतिरशणततिवा ।
(अा) अस्मत्तन्चर्रोल्या स्गाविनिश्नयविषये चिकेस्तायाज त' पव नियमाः पहत्तयश्म सीकृताः




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##  <br>  <br> (4) PANDIt SHIVARAM PANDE श्रीगणेशाय नम:- मद्रपुपदेशशीयवैद्यविमर्शकसामितेः साद्यप्रन्याN <br> मद्रपुरेदेशापवेद्याविमर्शाकसममेते: साष्पयम्भानामुत्तराकी ।

आवदापाय: ॥

$$
\begin{aligned}
& \text { जीवनोपायः ॥ }
\end{aligned}
$$





रोगिणस्तेषामाष्ताब्व बैद्यान् सम्यक्षपर्राष्व घागो निमन्न्रयनि। भाषुानेक्भेष्न्वषारिणा
 वैद्यतं न वैयः प्रभुरायुषः "। एवद्देशीयवैद्यतन्त्रानुराविना मिषमां वैद्यवहिकानिबे साति तेबु नियमेपु परिवर्तनापेक्षा नात्ति।

मन्त्रणां भिन्नसन्धाने भिषजां सान्निपातिे ।
कर्मणे व्यज्यते प्त्ञा स्वस्ये को चा न पण्दितःः ॥
<. पाश्राल्यैद्यपपद्धीरनुरुछ्य कियमाणा चिकित्ता बहुव्ययसाष्या, दरिद्धाणो द्वितसाषने चासमर्था; यतो देशान्तरादागतानामीषधनां मूल्यं पापगव्गयक्ष पमूतबनठ्ययसाध्पः। किन्नु दशेशषवैघतन्न्रपद्धरिरुरुध्य कियमाणा चिकिस्सा अक्वरा ल्पठ्ययसाध्या विनेब धनव्ययेनापि साज्येत्यस्माफे भतम्. 1
 ओषधय:, बहुप्रकारकं नलं, अमि:, मृत्तिका, फलनकादय:, जलीकसश्र विनेव ठपयेन सर्वत्रनायांसेनैव लम्यन्ते ; विशेषतया कठिनेष्वंपि रोगोपु ठयवहियने लाभपदाश्र मवन्वि ।

पुनश्शोपवासः बृृंहणं कर्षणं अतिरिक्तवतूनां पृथक्ररणादयः उपायाः रोगेशान्त्ये परमेपयोगिनः श्रूयन्ते दश्यन्ते च बैदिकग्रन्येषु निम्नलिखिता वक्यावल्य:-
" असंख्याताः सहस्राणी ये रुद्रा आधिमृम्यां तेषामन्रमिषव:""
" भद्यतेडत्ति च भूताने त₹मादन्नं पचक्षते" इंीि मनुः.
अनम्यासेन वेदानामाचरस्य च वर्जनात ।
आऊस्यादन्नदोषाच्च मृत्पुर्विपान् जिघांसति ॥
येषां तात्पर्य्यमवधार्य एकेन द्वाम्यां वाडन्नाम्वां निर्वाहः अश्पायासेनाएप्प्येनापि साष्य:, मोज्यानामन्नांां पर्य्यायेण परिवर्तनम्; यथा गोघूपादी|नां स्थागे यवाष्षादीनां बहुठ्वज्ञनानामने फमकारकाणां चान्नादीनां रुगूजनकानां स्थाने सुपचानां सात्विकानामनानां छ्यवहारम्रलमः; तस्पाच्छीधमेव रोगेम्य: मोश्ष उपऊस्यते । किश विरेचनन्डु सरेषषामेत रोगाणां निवारकं शरीरपष्टचादीनाज कारके बैद्यतन्न्तुषु पसिद्धं यथोध्यते-

बुद्दे: प्रसादं बलामेन्द्रियाणां
घाुर्थियरत्वं बहपचंश्येदीप्रिम् ।
चिराच्च पाकं वयसः करोति
विरेनं सम्यगुपास्यमानम् ॥
ज्ञानं तपोडग्रिराहारो सन्मनो वार्युपुपाज्ञनम ।
वायु: कर्मार्ककालौ च ग्रुद्रे: कर्तांणि देहिनाम ॥
वाग्मटस्य प्रतिजेयं नाजीणेनन विना रुजः ।
सबे रोगा महचशासत干माच्छोधनमाचरेत् ॥
विरेचनमत्र ₹प्टमेवातिरिकवस्तूनां चरीरादूरीकरणार्थे प्रयुक्तम्।
न तु जुद्धाव इति प्रसिद्ध उदरामयदूरीकरणाय-
केवलं दधिदुग्बतकादीनामेव भोज्यरूपेण ठ्यवहारः कतिपयरोगन् समूलं हन्ति ।

तथाद्दि:—संग्रहणीरोगे द्धां तकाणां वा; भोजलं, ज्वरादिषु केवलं दुम्धानामुपयोगः शीघमेब हाभपदो भवतीति असमच्छास्र्राणां सिद्धान्तः। नैतादृशी चिकिस्ता पाध्राल्या|दितन्तेषूपलग्येत इति निर्विवाद: ।
९. देशीयवैद्यतन्त्राणामापतितस्यापचयस्य कारणान्येतानि, यत् साम्भतं भारतवासिनः पाश्राल्यविद्याप्रचार|त्तदध्ययने तत्पराः, अत एव संसक्टतविद्यायां खर्षेमषु च शिथिल्रादरास्ततः पराड्मुखाश्र ।

त पते यथार्थधर्मतश्च्युतास्तथा वैद्यतन्न्नानुरी|लनविमुखाश्र सजाता: । इदानीं संस्कृत-
 ताबदायुवेददस्य स्रर्षस्य चोपेक्षारूपा रुग्दुसहाध्यैव। चिरकालमभिठ्याप्य बहुपयलेन च निवारयिड़ं शक्या। तरमादेतद्वाविषये सरैंरेंख साचधानतया व्यवहर्वव्यामिति ॥
१०. (अ) राजकीयैः पुरुषैरितररेरपि पाचानवैद्यक्रन्थाः सादरं पठनीयाः ; श्रद्धापूर्वक्ष तेषु निर्दिश्टेषपायेषु हर्ट्टिर्दातव्या ; तेषाभातुरीकनेन आयुर्देदे श्रद्बोपपत्स्यते।
 तन्त्रचारे यथाशक्ति यतनायम्।
(ई) विधविद्यालयैश्र पाठचविषयेषे वैद्यकतन्ं नियोजनीयम । तत्पाठम्नारविषषे च सोदोरीर्वर्तितंक्यमिति ॥

साध्यमभ्भानामुत्ररावल्लयंय घथाशक्ति पस्तुतीक्छताम्माभिः। इदमन्तिममावश्थकन्न निवेदननम , यद्वयं वैसतन्नाचिकित्ताव्यापरेपु स्ततन्न्रृतयैय कार्ये निर्वर्तयितुमाभिलषामः। नं चाषिकारिवर्गाणामस्मिन् विषये कोडपि हस्तनिक्षेपोइझमाकमभिमत इति तत्रभन्तो विदाएब्बुर्वन्तु ॥

BOMBAY.
(5) Thr aimedabad Vaidya sabia, throvge Vaidya Narayan shanker DEVSHANKER, AND orabrs.

॥ श्री घन्बंतरये नम: ॥
देशीयवैद्यकोत्तेजनाथँ सलरमुद्यमाः कतेंठ्या इति विषयं पर्यालालोच्य मद्रपुरनिर्माणसभाया १९२१ शो बत्तरे फिइबरी मासस्य २१ दिवसे निर्णयमेक निरवर्त्रयत् ॥ एतदर्थमेव १९२१ वत्सरे अक्टोग्नर मासस्य १७ दिवसे (तारिखे) मवृत्ते नं १३५१ पी. ऐ. प्रेस. इले-
 प्रमाणं निवेदघयुंड काचन समितिः राजकीयैरसित नियमिता। सामितेः सकाशा|न्मिलितानि साष्ष्यप्रभ्भानि पर्य्योलोच्च तदुत्त्राणि सादरं समितिसमक्षं निवेद्यामः ॥

[^2]871
 साक्ष्यप्रद्नोत्रराणि.


## (अ) द्वितीयप्रश्नस्योत्तराणि ॥

॥ पश महापूताः ॥






 कर्मेन्द्रियाणि पष्षैव कथयान्ति विपश्भित:"। बुद्दी ीन्द्रियाणि बुद्देराश्रयत्वत् कमेन्द्रियाणिण कमाश्रयत्वान्



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 बसुन्धरा जायते ॥ अथ महामूतानां गुणानाह ॥" शब्दः श्रोत्रेन्द्वियंय वाडपि छिद्राणि च विंविक्तता। वियतः कथिता एते गुणा युणविचारिभिः ॥" विविक्तता चरीराणां मावानां शिरास्न्र|घवा-
 चेष्टा सर्वशशरीरस्य वायोरेते गुणाः स्ृताः ॥ रूपं नेन्रेन्द्रियं पाकः सन्तापसीीरणता तथा । वर्षो आ्राजिण्णुताडमर्ष: शทौर्य बुद्दे: गुणा अमी।। रूपं लावण्यम् । पाकः उदराग्रिनाउहापाकः । सन्तापः और्ण्यम्। तीक्षता आतुकारिता। वर्णो गैरादिः 1 भाजिण्णुता दोतिः 1 अमर्ष:
 गन्धे घाणेन्द्रियं चापि काठिन्यं गौरवं तथा। ब ुन्धरगुणा एते गदिता गुणवेददामिः ॥ शब्दः स्पर्शाश्र रूपश्र रसो गन्षश्र तक्कमात् । वन्मात्राणां विशेषाः स्युः सथूलभावुपागतःः ॥ अष्ट-
 पकृतिरेवे कारणं न उु कस्य चिकार्यमिमिल्यः। कार्याणि इन्द्रियाणां सर्वभूतानां कारजत्वन्महरीविंभि-

 भूतानि पश्च च। एतानि स्रस्टि जानद्रिीर्किकारा: बोडश़ स्मृतः।

सप्त प्रकृतयः। एवं ज्ञानेन्द्रियाणि (५) कर्मेन्द्रियाणि (१) महामूता (१) विषया' (१) अन्तः-


कथमिति चेत्। मातुः रजसि, पिकुः गुके, लिझ्ञशरीरे, गर्भाषानानन्तरं मष्व्यभोज्यादिपदार्थरसेषु च पश्नमूतानामधिष्टनात् मूतशररों कर्यतें। आकाशः सर्व्व्व्यापित्वान्न गण्यते। मूतषोडघात्मके शरीरे याववर्पन्यं ज्वरादिरोगा न पविशान्ति तावपपर्यन्तं सस्थः पुरुषः। यद्यापे देछघारिणः स्वाभाविकाः (क्षुत्विपासादयः) रोगास्तु भबन्ति ॥ रोगाश्र नाम—" शररीरमनसोराबाधकरा रोगः"। शरीरमनसोः आबाफकराः पीडाकराः रोगाः भवन्ति 1 मातापित्रेः गुक्रोणितस्थमूतचडुष्टयइरीरे यदा ठयाघयो जायन्ते तदा एतादृशर्गर्भस्वरूपे ठ्याषयो भवन्ति । तघथा-कुषभगन्दर्रमेदादयः।. "कारणानुगं कार्य भवति " इलति नियमाव् । समतायिकारणसहघं कार्यै

 बर्षाजु यावम्माणं योग अपेक्षितस्तावम्रमाणं न्यूनाधिक्यमस्ति चेष् हितयोगः कथ्यते 1 उष्णयोगतायां शातिपचारः। शीतयोगतायामुण्णोपचार इत्यनिष्ट्पोप्पदको हेतु: मिध्यायोग़: कथ्यते ॥ एवं बुद्धीन्द्वियाणां विविधयोगात शुकशोणितरसस्यमहाम्बत्दादशाके यदाइट्यवस्था जायते तदा रोग इनुच्चते । अपर च, काल्बुद्धीन्द्रियार्थनां यथोचितकार्यांत्त शररारादिकिया यदा योग्यकार्य क्रियते तदवस्था चः:
 मिथ्याः (३) न (२) चाति च (३)। द्वयाश्रयाणां ठ्यार्धनां त्रिविषो हेउतंत्र्रहः ॥ शरीरे़ सच्चसंज्ञां च ठ्याषीजामाश्रयो मतः। तथा खुखानां योगखु हुखानां कारणं समः॥ भावमिम्रेणाव्युक्तम-
 भूतपषकशरीरेडस्मां विकारः ज्वरादयो न प्रविशन्ति ताबत्पर्पन्तं आरोग्य इति संज्ञा। यदा भूतपषकसरूपे गुणे कियायां वं परिवर्तनं भवति तदा पृथग्टथयम्याघयः प्रविशान्ति ॥ उत्क चरकाचार्येण सूत्र-

स्यानाध्याये（२५）－ए्षामेव हि मावानां सम्पत्संजनयेस्नरम्। तेषामेब विपद्वक्याष्षीन विविषान् समुदीरबेट्।। अत्रोदाहरणम्－सम्यगसम्यकाष्ठादेना 巨तं च हढं गृढं तथाडपि काष्टे कीटादिम्रवेश्रेन，अमिदाहेन，
 सर्ववस्तुस्थितौ बौन्दठ्यम् ॥ पूर्वोक श्रुतिपामाण्याव् मतपषकं जातम्य 1 ओं तस्माद्वा एतस्मादात्मन अकाशः सन्मूत इत्यादि ॥ा पउपूतानां न्यूनाधिक्यमिश्रतया सष्टो सर्वपदार्यसंभव： 1 षार्षिक शरीरम । एतेनान्यतथ्वानो शरींरे अंशो नास्तीजि न 1 अन्पतक्षानामप्बंशो भवति 1 घरीरे पार्यिवांशांशस्य＂अस्षेजोवाख्वा＂दित्रयाणामधिष्ठानरूपत्वम्। अहेजेवाघ्वादित्रयाण｜समविषम－

 यदा तेर्व（ तत्वेषु）ठ्यवस्थापादुर्मावः स्यात्तदा रोगाः หविशान्ति 1 संदर्मरत्वेवं तष्षत्रयस्य यावत्प－ र्यन्तं समसिथनितंब तावत्प्र्यन्तं शरीरस्य सुसिथितित्वात＂त्रिघातु＂रिति कर्यते । तथा च—पदा तत्वत्र्यस्य विषमस्थितित्वं जायते तदा शरारदूषयितृत्वात् च्वत्ययस्य दोष हति चब्दते（ठपबडियते）। एवं तच्व्वत्रयाणां विकृताइविकृतस्थितित्वं सम्यन्ज्ञात्वा खास्थ्यरक्षणार्य रो।गपरिहारार्य च महर्षिभि： ये ये नियमाः कथितास्ते वे यथायोग्यं पालनीया एव ॥ अत्वंवं कफः，तेजस्तत्वेन（अमितष्चेन） पित्तम्，वागुतंत्वेन वातः। एवंरीत्या बातपित्तकफाश्र दोषधातुरूपेण शरीरे तिष्ठन्ति 1 उंत्र－ वाग्मटाचयर्येण－वायु：पिपत्तं कफश्रेति त्र्यो दोषा：समासतः 1 विकृताऽरिक्ठता देहं घन्वि ते वर्धयन्ति च ॥

> ॥ दोषाः ॥
（वायु：पित्तं कफश्न）॥

## （4ोषनिरुक्ति：॥

धातवश्र मलाओडपि दुष्यन्त्येमिर्यतस्ततः वातपित्तकका एते उ्यो दोषा ईति स्मृताः॥ दोषा इत्यत्र दुषू वैकृत्ये इति दुष्धातोः दुष्यन्त्योभिरिरि वाक्ये＂अकर्तरि च कारके च संज्ञायामित्यनेन सूत्रेण करणेऽर्थे घञ् प्रत्ययः । दूषयन्तीति दोषः 1 ते घातवोऽपि विद्वद्विर्गादिता देहधारणात् （Nervous system，Blood sj stem，Lymphatio sjstem）इति पाश्रिमात्यैवैद्यके धातुरूपेण संश्रिता：। विसर्गादानविक्षेपैः सोमसूर्यानिला यथा। घारयन्ति जगद्देहं कफपित्तानिलास्तथेति। द्घतीति घतवः। अत्र यथासंख्येनान्वयो बोड्दक्यः । विसर्गादानं वा तरयैवम् । विक्षेप：शीतोप्णादीना विविष－ प्रकारेण प्रेरणम् 11 मलाश्र ते रसादीनां मलीनीकरणान्मता：। अत एव शार्ञघ्राचार्येगेक्तम् । शरीरे दूषणाद्दोषा घातवो देहघारणात् । वातपित्तकका ज्ञेया मलीनीकरणान्मलाः ॥ उक्क च दोष－习习विषये सुश्रुताचार्येणाइपि सूत्र्रथानाध्याये（२१）－＂वातपित्तश्केप्माण एव देहसम्मवहेतव：।
 रेके। त एते च व्यापन्ना：प्रलहेतबस्तदेमिरेव शेणितचतुर्थैः संभवस्थितिमलयेय्वप्यविरहित रारीरं मवति 1 मवति चात्र 1 नते देहः कफादरित न पित्तान्न च मारुतात । शोणितादकि वा गिल्यं देह एतैस्तु धार्यते ॥
शबदार्थश्न ॥
 पिंत्त रुफ्मेति च रूपाणि मवन्ति ॥
 नामेः पक्कारयः। पक्ञाशयमध्यं पित्तिय । आमाशय：श्रेण्मण：॥



 याणापुपयोगकरः। सर्वेन्द्रवार्थानाममिवोढा। सर्वशरीरघात्व्यूहकरः 1 संधानकरः शरीरस्य।








 - －上小

 －定 fिमिर्वातशक्देन यद्वत्कथितं तत्वर्व यथार्थकथितमिति ।
"I
 पीतस्न्रिरमम । नींलं सामम । एकमेवपपतंत्ता बातवन्नामस्थानकर्मरमेदेः पशविषम ॥

## पित्तस्य नामाने ॥

## पाचंकं रअंकं चाडपि साछकालोचके तथा।

भाजकఫेति पित्तस्य नामानि स्थानमेदतः ॥







तीदणौषधानामुपयोगः क्रियते ॥ हैं सति घीतक्रियादीनामुपयोगः । धागमादवे ह₹गेते न सउ
 रूपस्यैव वित्तर्य स्थानभेदात्पाचकरंजकसाधकालोचकभ्राजकसंज्ञाः 1 तेजस्त्वेन (मितेन) पाचनादि कार्य घवति। पित्तथृद्विश्रेन्संतापविक्किये मबतः। घरीरम्यापारांमका⿳े नैसर्गिकोप्णता या-


 पित्तस्यायुर्वेदशास्तकराेण सम्यक्त्या न्फुटीकरणं कृतम्। तथापि लेखस्य गर्रवभयादत्र न लिखितनम् !!
 "The bilo assists in emulsifying the fats of the foode and thos rendering them oapable of passing into the lacteals for absorption"-Kirke' Physiology-पाचकपित्तेनान्यपिचानों पृथक् पृथक् एवै कार्यकरणे समर्थता भवति। इति वाग्मटेनोक्तम्। तत्रशथमेव पित्तानां घोषाणामप्यनुग्रह्रप्।
 भवति । पतहिद्विषये पाश्रिमाल्यविदुषां निम्नलिखितसिद्दान्तः: "The oolouring matter of the bile $i^{s}$ derived from, and is elcsely relatod to, that of blood. ainoe the qualitien of the bile pigment secreted are markedly increased by the injection of anhstancee iuto the veine which are orpable of setting free Haemoglohin '"-Kirks' Physiology.

साधकपित्तस्त्यहदयं स्थानं । एवत्पितेतेन हृत्पकोष्टर्य (Contraotion of the beart) संकोष-
 मानाचैरीभिमेतार्थसाघनात्। साघकं हदुगतं पित्तम । हदययंकोजने पाश्रिमात्यनामवि निम्नलिखितविचारो हृश्यते-" The contraction (of the heart) cannot be long maintained without due supply of blood or a similar nutritive fluid. The view that is at present taken of the aotion of the heart is that in heart musoles as ia protoplasm generally the metabolic processem are those or anabolism or building up which takes place during diastole of the heart and the kataboliam or discharge which is manifested in the oontraction of the heart "-Kirke' Phyaiology.

आलोचकपित्तस्य स्थानं द्वष्टिमंडलमू। हृ्ष्टिमंडरे या पित्तस्य कियाSतित (Metabolio prooenc) तयैव दर्शनशाक्तर्जायते। एतदभावे दर्शनंन न भवति, एतदर्थमेव महर्धिभिरन्वर्थ नाम पतिपाडितम्। पाश्रिमाल्या एवं वदन्ति-" It is supposed that the obange effected by the light whioh falls opon the retina is in fact a chemical alteration in the protoplamm and that this atimalates the optio nerve-endings." श्राजकपित्तस्य स्थानं त्वग्मवाति । एवेन भर्वेइादिक्रिया मवति ।

कफस्य स्वरूपम् ॥
श्रेप्मा श्वेतो गुरुः स्तिग्वः पिच्छिलः शीतलस्तथा। तमोगुणाषिकः सादुर्विद्धधो कवणो भवेत्। एक एवः श्रेष्मा वातपित्तवच्च नामस्थानकर्मभेदै: पश्चविध: ॥।

## कफझय नामानि ॥

कफस्सैतानि नामानि क्छेदनश्रावलंबनः । रसनः स्रेहनश्चाडपि श्षेष्मण: स्थानमेदतः ॥

## कफस्थानाने ॥

आमाइयेडय हदये कण्ठे शिरसिस सन्धिषु । स्यानेष्बेषु मनुष्याणां त्रुप्मा तिषत्यनुक्रमाव ॥ दोषाणां सकलयरीरव्यापिनामपि पथ्ष पश्न ₹थानानीति बाहुल्यामेप्रायेणोक्कति।

वाग्मटचरकयोराभिपावः-इति प्रायेण दोषाणां सथानान्वविक्टताममनाम्। व्यापिभामापि जा़ऩीयात्


 आमाशयः स्थानं। क्षेदनकफस्य यत्कार्थ तक्कार्य पाश्रिमाल्ये: " लाला" शब्देन संज्ञितम्-‘' $T_{\mathrm{he}}$ physical use of saliva consists in moistening the mucous membrane of the mouth, assisting the solution of soluble substances in the food, and in virtue of its mucin, labricating the bolus of food to facilitate owallowing "-Halliburton's Phyeiology.
" समचं कफ"इति चेन्मुखे लालापसेको भवति। आर्यैवैद्यक्यास्त्रे केदनकफफस्य कार्य वर्वितम्। अष्टाइ़संग्रहे। चरकेऽप्युत्तम्— तद्रवैर्भैन्नसंघातं र्रेहेने मृदुतां गतम्। अतः क्केदनकफेन सह "लाला" इति शब्दकार्यस्य साद्श्यम्। अवलंबनकफस्य स्थानं उर:। सश्क्कया खर्याने स्थित्वा हेषपूत्तमपच्वं पोषयित्वा साहाय्यं करोति। अतस्तस्य " अवलंजन" इंति संज्ञा i;

एनं पाश्रिमाल्यवैद्या रस इूति कथयन्ति ॥ रसनकफस्य स्खानं जिढ्हामूलम्। कृतं वर्णनं सुश्रुतसंहितायाम् ॥ निंद्यामूलकण्तथो जिढ़्दान्द्रियस्य सीम्यव्वात् सम्यग्रसस्थाने वर्तेते । रसनकफो यदा नोत्पय्यते तदा जिछाया रसज्ञां न मवति । पाश्रिमाल्या अपि रसनकफें मानयन्तीति निमदद्रार्शत वाक्याज्ज्ञाఖत एव-" Serons glands ocoorr only at the baok of the tongue in the neighbourhood of the tasterbuds. The secretion of these serous glands is of a watery nature and probably assists in the distribution of the substance to be tasted over the taste area "-Gray's Anatomy.

घेहनकफस्थ स्थानं शिरः 1 सुश्रुतोकोकम् । शिरस्स्यक्सेहतर्वणाधिक्ठतत्वादिन्द्वियाणामात्मवीर्येणननुग्रंं करोति। स्रेहनकफाभावे मस्तिष्कगतेन्द्रियकार्थ न भवति। पाश्रिमाल्या अप्यें बदन्ति"Ite ohief use is probably to affiord mechanical protection to the nervons oentres and to provent the effects of conoussions commonicated from without." Gray's Anatomy, श्रेषणकफस्य ₹्थानं संधयः 1 सुश्रुतेनोक्तम्। संषिस्थस्तु शण्मा सर्वसन्धिसंक्षेषात् सर्वसंध्यनुग्रहं करोति ।. पाश्रिमात्याः (Synovia) "सायनौबीया" संज्ञया वदन्ति-" Synovia labricates the eurface of the joints and so ensures an easy movement "-Halliburtun's Physiology.

मूतनवुष्टयस्व वातः पित्तं कफर्षेति संज्ञा क कथिता इति चेत्, चरकाचार्येण निदानस्थानेप्रथमाह्याये कथितम्। अतक्रिविषविकरषा व्याघयः प्रादुर्भन्न्याग्रेय सैम्य वायब्या इति। अग्र्रु१प लिखितमू 1 विधिर्नाम द्विविधा ब्याषयो निजागन्नुकमेदेन, त्विविधास्त्रिदोषपेदेन। एकस्थले "अाम्येय सीम्य वायव्या इति दोष्त्रयस्योमुपादानम्। तथा च। प्रश्कुतावार्येण सूत्नस्थने रसाविशेषविज्ञानीयाध्यांये (8२) श्ठोके पद्धर्शातम् 11 तत्र मधुराम्लरुवणा वातमाः। मधुरतिंक्रकषायाः पित्त्राः। कटुतिक्रकषायाः सेष्मघा: ॥ अपरश्न 1 वातः पित्ति कफश्रोति दोषाः के इति चेद्व तेषां पष्षमूतरसातमकेन सह सम्बन्षः कीदृच इति शब्कानिरास्तथ कथ्यते। वायुरात्मनेवात्मा, पित्तमाप्रेयम्; र्रुष्मा सीम्यः।

 पर्र्यालोच्य विचारः क्रियते चेत्तर्हि-

त्रिदोषसिद्धान्तपदतिः पशंसनीयेति ज्ञायत एव ! भवतां शाखंं नास्ति चेत्तार्दि पदवेर्पु का कोेता।

## रोगपरीसा ।

प्यमतः रोगपीीक्षार्थ समवायिकारणस्य सदकारिकरणस्योपयोगेन च बस्तुतिषात्ज्ञानं अयते।

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 मूत्रं，रूपं इत्यादीनां ग्रहणं बोद्दव्यम् । पतदर्थमेव परीक्षष्टविषा बकिताता ॥ नारी，


रोगः पीडा। तस्य प्रकारद्रवम् 1 यर्किविद्देशावच्छेदेन，अर्शोभगन्दरादयो रोगाः। तथा च

॥ निदानम ॥

## （आ）हीतियिशश्नस्यंतरगतस्योत्तराणी ：i

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 कुविता महाः। तत्र्रकोपस्य तु．पोक्कं विविधाहिवसेवनम ॥

सारांशः ॥ यत्न भूतचतुष्टयशरीरेऽव्यवस्था न्यूनताधिक्यं वा ₹्यात्तत्र तत्सदृशपरीरूर्णल़ं कार्यमिति सिद्दान्तः । उंक्ष च चरके शारीरस्थाने—(ई)—तस्मान्मांसमाप्यायते मंसेन भूयोडन्येम्यः शरीरधातुम्यः। तथा लोहितं लोहितेन, मेदो मेदसा, बसा बसया, अस्थि तरुणास्भा, मन्जा मज्जया, शुक्ंक ⿹ुक्केण, गर्मस्त्वामगरेंणेल्यादि ।"एवमन्येषामपि शरीरधातूनां सामान्यविपर्ययाभ्यां वृद्दिहासौ यभाकालं कार्याविति"॥ तथा च सुश्रुतः —क्षीणा वर्द्रीयितठ्या; समाः पालयितव्याः वृद्धाः ह्रासयितव्याः इति ॥ चरकेणोंक्त सूत्र्थाने-(१)—सर्वदा सर्वमावानां सामान्यं वृद्धिकारणम्।। ह्दासहेड़र्विशेषश्र भवृत्तिरुमयस्य तु ॥ अत्रैव द्रव्यगुणक्रियाम्यः समानता ज्ञातव्या। कथमिति चेत्, मूतपक्षकसरूपषे गुणेषु कियासु च यदाइठ्यवस्था जायते तदा रोग इति नाम । दाषगुणः । पक़ारहद्ययम् । भूतपक्षकांतरङाः बहरेंगःश्र । (१) रुक्ष, (२) शीत, (३) लमुतु, (४) सूक्ष्म, (६) चलु, (६) विशद, (७) खर एते वातगुणाः ॥ (१) स्निग्ध, (२) उष्ण, (३) तीक्ष्ण, (४) द्रव, (५) अम्ल, (६), सर, (७) कटु एते पित्तगुणाः ॥ (\}) गुरु, (२) शीत, (३) मृदु; (४) स्तिग्, (१) मधुर, (६) सिथर, (७) पिच्छिल एते कफगुणः ॥ साघारगयेन विंशतिर्गुणाः ॥ (१) गुरु, (२) लषु, (३) मन्द, (४) तीक्ष्ण, (१) हिम, (६) उष्ण, (७) स्तिण्घ, (८) रूक्ष, (९) क्षक्षण, ( १०) खर, (१ १) सान्द्र, (१२) द्रव, (१३) मृदु, (१४) कठिन, (१६) स्थिर, (१६) चल, (१७) सूक्ष्म, (१८) ₹थूल, (१९) विशद, (२०) पिच्छिल इति विंशतिः साधारणगुणाः 11 तेषु विपरीताविपरीतगुणपदर्शका अपि सन्ति ॥ यथा-यत्र शाताषिक्यं तत्र उष्णोपयोगः । यत्रोण्णताघिक्यं तन्र शीतोपयोगः। चरकाचार्येणोक्त विमानस्थाने (३-२६९)—रीतेनोष्णकृतान् रोगान् रामयन्ति भिषग्विदः 1 ये तु शीतकुता रोगास्तेषामुष्णं भिषग्जितम् ॥ एवमितरेषामपि क्याधीनां निदानविपरीतमौषधं कार्य्यम् । तथापतर्पणनिमित्तानामपि वयाधिनां नान्तरेण पूरणमस्ति। शान्तिस्तथा पूरणनिमित्तानामन्तरेणापतर्पणम् । अपतर्पणमपि च त्रिविधम्, लद्धनम्, लड्दनपाचनम्, दोषावसेचनम् 11 अवस्थाविशेषण ज्वरे भदर्शितम्। ज्वरादौ ल⿸्ब्बनं कुर्याज्वरमध्ये तु पाचनम् । ज्वरान्ते रेचनं दैद्याव् सर्वज्वराविनाशनम् ।
(आ) रोगचिकिस्सा ॥
चिकित्सा रुद्रतिकियां इल्यमरकोरो । कितेव्र्यापिपतीकारे 1 कितिधातोः सन्म्ययात् चिकिस्साशब्दो जायते । चिकिस्साया अधिकरणं पाश्चभौतिकं शरीरम् ॥ शररीरस्य प्रकारद्वयम्, खस्थं रुगम् । सस्य मर्यादायां स्वक्रियया वातपित्तश्रेष्माणो यत्र शरीरे विष्ठन्ति तत्रस्थम् 1 एतद्युच्पल्या समदोषः, धातुमल्लामिक्रियक:, प्रसन्नात्मेन्द्रियमनककश्न सस्थ इति ज्ञायते । अत एवोक्तं सुश्रुताचांयेण उत्तरतन्त्राध्याये (६१)—"समदोषः समामिश्र समधातुमल०कियः। प्रसन्नालेन्द्रियमनाः खस्थ इस्यमिधीयते ॥" इति ॥ सास्थ्यस्य रक्षणार्य दिनचर्या, रात्रिचर्या, ऋतुचर्यादिनियमानां पालनं यथाइास्रं कर्तब्यम् ॥ एतेन स््स्थस्य चिकित्सा कथिता ॥ एतन्नियमानां यदोल्लंघनं स्यात्तदाइस्स्थता रुण्णता इति कथ्यते । यदा मूतपक्षकस्य खरूपे, गुणे, कियायां च विषमता स्यांत्तदा रुणता। तस्या एव चिकित्सा। सा त्रिविधा, हेतुलिख्ञैषधनीति । त्रयाणां यस्मिमन् शास्त्रे साङ्झोपाङ्गिकित्साSसित तदायुर्वेदशासामिति कथ्यते । चिकित्साशाबदेन हेतुलिद्ञौषधानां ज्ञानं अवति । पश्थमूतशरीरस्य शरीरिणः जीवात्मनः सम्बन्चः पुरुषः कथ्यते । एतत्पुरुषस्य दुःखयोगः ठ्याधिः कश्यते । व्याधयश्रतुर्विधाः -अगन्तवः र्शारीराः मानसाः साभाविकाश्रेति। चतुर्णमपि त्रयो भेदाः-आध्यार्डिनक: आधिदैविकः आधिभौतिकश्रेति ।। सुश्रुताचायेंण सूत्रस्थाने (२४) अादिबलप्रवृत्तादिसप्तभेदं दर्शयित्वाऽआधि़द़ैविकमधानताया उं
 तया हि कृस्त्रं विकारनातं विभरूपेगावस्थितं सख्वरजस्तमांति न छ्यतितिम्बन्ने ॥ एववेष कृत्तं विकारजातं विल्बरूपेणावस्यितमण्यतिरिच्य वार्वप्तस्केष्माणो बर्तन्ते । धात्मनः महुः़स धररारमनोद्वारातो ज्ञायत एव 1 अतः एतस्थाडपि हूं हारीरकं मानसिकं चेति 1 पतस्सर्स्स सूक्ममेदतया "भागन्तुकः, शारारिक:, मानसिक:, स्वाभातिक"श्रेति मेदचनुष्यं प्रतिपाति ॥ त्रिदोषविषमतायाः हेतुः । हेतु: कारणम्। यधापि नैयायिकेन "समवायिकारणम, असमवयिकारणम्, निमित्तककारण"मिति कारणच्ययमझ्रीक्तम्। तथापि। कातुर्वेंत्रात्ते समवायिकारणम् (उपादानं), सहकारिकारणं चेति कारणह्रयमद्यक्टतम् 1 एतदर्यमेव पृथक् २ रोगोत्पतिकारणं दर्श-


 सामान्यतया दर्शिताः विरोषेण ह₹्यन्ते । तन्र द्रव्याणि (१) गुरु, (१) वरं; (१) कठिन, (8) मन्दु, (६) सेथर, (६) विशाद, (७) स्थूल, (८) गन्बगुण, बहुलानि पार्धिबानि। तानि (१) उपचय, (२) सद्धात, (३) गीरे, (१) स्थैर्य्यकराणि ; (१) दब, (२) ब्विश्ध, (१) घीत, (8) मन्द, (६) मृदु, (६) पिच्छिल, (७) सर, (८) रस, गुणबाहुध्यान्याध्यानि ॥ तानि (१) उरके़द, (२) स्रेह, (३) बन्ध, (8) विप्यन्द, (६) मर्दव, (३) पहाद कराणि । (३) उण्ण, (२) वीक्षण, (३) सूक्ष्म, (8) लदु, (१) रूक्ष, (६) विशद, (७) रूप गुणबहुला-
 (१) लछु, (२) शीत, (३) रुक्ष, (8) खर्, (१) विराद, (१) सूस्म, (७) ₹पर्श, (८) गुणबहु. लानि वायं्यानि । तानि (१) रीक्ष्य, (२) गलानि, (३) बिचार, (४) वैशद्य, (१) लाष्व, कराणि। (३) मृदु, (२) लमु, (३) सूक्ष्म, (४) क्षक्षण, (१) घबद, गुणबहुलान्याकाशात्मकानि । तानि (१) सीषिर्य, (२) लाषवकराणि ॥ द ॥" अनेनोपदेंशेन नानोषषिपूते
 मेव पूर्वोंक्त कथितम्। कर्ममेदेन पृथक् २ नापमेदा जायन्ते। तद्यथा—एको देवदत्तरत्तर्य पा₹नादिकियोपयोग़ापाचकः रअकः दापकः कारकः हारक: घारक इल्यादिनामानि मवनि । तथैव
 छनेकां संज्ञां उमते कार्यान्तराणि कुर्वन् । तद्यभा पुरुषो बह्दनां कर्मणां करणे समर्थो मवति स यद्वत्कर्म करोति त₹्य २ कर्मण: कर्तृकरणकार्यसम्पयुक्त तत्तद्रीण नाम विशेपष्व|मोति तदूदोषष-



एतदूज्ञानाथं लिङ्ञ्रज्ञानमपेक्षितम्। द्रष्टव्यं चरफाध्याये (३८)—निल्याः भाणभृतां देहे घात-
 च्छरीरत्वावस्थानमस्ति चेत्रस्य प्रकृतिसथत्वे साम्यावस्या" विकृतिस्थत्वेडसाम्यावस्या जेया। एतावन्मात्रं च साम्यत्वं कथितम । यावता प्रकरेण सरूपेण पमाणेन वा घरीरस्यानावाधकरत्वं सम्पघदे तदेव साम्यम्। एत्वदतिरिर्तसाम्यपदार्थों नास्ति। वतापित्तकफादिगतगुणक्किययोस्तस्तदेव लिक्यम्य प्रतिपादितं च चरकाचार्येण सूत्रानाध्याये (२०) अरीविर्वातविकारासद्यया - वातपित्तेष्ठेम्मविका-


इल्यादि ॥ く० ॥ वातविकाराणासपरिसंखुवेयानामाविष्छृततमा（पसिस्दतमाः）ठ्याहूातृः । सूें－『ंपि खल्वेतेपु वातविकरेषे अन्येषु चानुतेकु वायोरिदमात्मरूपमपरिणामे कर्मणश्न सलक्षण यदुपलम्य तदवयवं वा विमुकसनेहा बातविकारमेवा Sध्यवस्यन्ति कुशल्गः 1 तद्यथा－（१）रौस्यें； （२）लाषवम，（३）वैशद्यम्，（8）रौत्यम्，（६）गतिः；，（ई）अर्मूत्त्वष्वोति वायोरात्मरूपाणि। एवं－ विफ्वाच्च कर्मणश्र स्वरक्षणामेदमस्य मबतित तं तं शररारावववमाविशतः（३）संस，（२）अंशभ （३）व्यासङ，（८）अभेद，（१）साद，（३）हर्ष，（९）तर्ष，（く）आवर्त्त，（९）मर्द，（८०）कम्प， （११）चाल，（१२）तोद，（१३）व्यघ，（१६）वेष्ट，（३१ भझ़ास्तथा खर，（१६）परुष， （१७）विशद，（३く）सुषिरता，（१९）अरुण，（२०）कषाम，२१）विसरता，（२२）शोष， （२३）शूल，（२४）सुप्ति，（२१）सब्क्रुचन，（२६）स्तम्भनाने वायोः कर्माणि। तैरत्वितं बात－ विकारमेवाऽध्यवस्येत् तं मधुराम्हलवणास्न्रमोण्णुरुपकमेत।（१）सेदद，（२）स्नेह．（१）अस्थापना， （६）अनुवासन，（१）नस्यः कमें，（६）भोजन，（७）अम्यळ्ञ，（८）सादन，（९）परिषेका－
 मन्यन्ते भिषजस्तदुपपादित एव पकाशयमनुपावश्य केषलं वैकारिकं वातमूलाव्छिनत्ति，तचाइव－ नंनेत बातोपि शररीरान्तर्गता वातविकाराः प्रशान्तिमापघन्ते，यथा बनसपेतेपूले बिन्ने सकन्व，शासा，


 पित्तविकरेष्वन्येपु चानुत्तष पि पित्येदमारमरूपपरिणामि，कर्मणश्र सरक्षण यत्तदुपलक्य तदवयवा विमुक्तसन्देहाः पित्वावककारमेवाध्यवस्यन्ति कुरहाः । तद्यथा－（१）औष्णयम，（२）तैष्ण्यम्，

 विशतो（१）दाहो，（२）ऊप्म，（३）पाँऋ，（४）सेद，（५）क्षेद，（६）कोथ，（७）स्राव，（く）रागाः यधास्वध्र ग़न्धवर्णरसादिर्मिन्वर्वतनं पित्तस्य कर्माणि तैरनिव्वं पित्तविकारमेवा ऽध्यवस्येत्，तम्मधरतिक्त－ काषाशशीत̂रुरुपकमेरुपकमेत ।（१）स्रेह，（२）विरेक，（३）पदेह，（8）परिषेक，（६）अम्यझु

 शरीरार्नर्गताः वित्तविकाराः प्रशान्तिमापद्यन्ते，यथाग्रौ उ्यपोढे केवळममिग्रूश्र शीतो भवति तहद्व II

स्रेण्मविकाराश्र विरातिरतं ऊर्ध्व व्याख्यास्यन्ते। तद्यथ－（३）तृतिश्र，（२）तन्द्रा च， （३）निद्रंधिकंय च，（8）स्सैमिस्यः इल्यादिभिः संख्यां（२०）समाप्यन्ते। क्षेष्मविकाराणामपरि－
 इदमात्मरूपभपरिणाiि，कर्मणश्र सउक्षणं यदुपतस्य तदवयवं＂वा विसुकसन्देहा：＂े्रष्मवविकारेवा5－
 शेष्मण आत्मरूपण्येवंविष्तां कर्मणः सलक्षणमिदमस्य भवति तं तं शरीराडबयवमाविशतः

 श्केष्मण：कर्माणि। तैरिन्वितं स्रेण्मतिकारमेवाघ्यवसयेत्，तं（१）कफ，（२）कट्रक，（३）तिक्त，

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 यवषहिकादान्यभिप्यन्द्धानान्यम्भसा प्रोषषमापद्यन्ते तददिति $H$ स्वास्प्पस्त हेतुकिजीषष हति।






 क户


 चिकिस्सार्वीज सम्ठंवर्णीतम् ॥

## चिकित्साबीजम ॥



 - En $\mathcal{E}$ II



साभाविकाः क्बुलिपासाजरामृत्युनिन्द्रापभृतयः । त एते मनःशरीराधिष्षानाः । तेषां संशोेषनन संशमनाहराचराः सम्यक् प्रयुत्ताः निम्रहहेतवः 1 प्राणिनां पुर्न्मूलमादारो बलबणोंजसाः षद्रक्ष रसेष्वायत्तःः । रसाः पुनर्द्रव्याश्रयाः । द्रव्याणि पुनरोषधयस्ताः दिंविषः:-सथावराजद्नमाश्न । तासा

 - H Hptill 1 :








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वर्गः :्रुखावहःः ॥ पवमेतपपुरुषो ठवाधिरीषधं किया काळ इति चनुष्ट्यं समातेन ठ्याख्यातम। तन
 ग्रहणाद्दातपितकफशोणिणतसन्निपातवैषम्पनिमित्तः सर्व एव ब्याधयो ठ्याए्याताः । औौष्यग्रणाव

 सावैंशमध्य:यरतमस्य क्याए्वा माविण्यति ॥ तच सरिवशमध्यायशतं पश्यु स्थानेषु। तत्र सूत्र₹थानलिदानशारोराचिकित्सितकल्पेव्वर्थवशात्तंविमज्योत्त्रे तन्त्रे शेषानर्थान् व्याखु्यास्यापः । इति ॥
ुुभुते चोक्रानि ।
|| fullalk
 कायचिकित्सा, भूतविद्या, कौमारभृल्यगयतं रसायनं वाजीकरणें चेति ॥

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\text { अथास्य प्यल्ञ } ठ ् ष ण स म ा स ः ~ । ~
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 यन्न्रार्बक्षाराम्भिप्रणिघान्र्रणविनिश्भ्रयार्य, च ॥
(भ्रवणनयनवदनघाणादिसंश्रितानां) व्याधीनामुप-

 प्रहोपशमनार्थ्म् ॥

श्रौमारमृत्यं नाम कुमारभरणधाःंश्षीरदोषसंशोषनार्थ दुष्टसन्वन्यहसमुत्यानां व्याधीनामुप-
 पहतोपरामनचर्थम्॥

रसायनतंत्र नाम वयःच्यापनमायुपेंधाबतकरं रोगापहरणसमर्थ च ॥


## || आरुर्वेदनिकित्सायाः श्रेष्त्वम् ||

आयुॅॅदशाहालपदर्श्रितनियमेन चिकित्सा स्याच्चरत्हा राजयक्षमा संगहणी कुषामवातेपदंशाविषमज्वरममेहवातव्य|बय इल्यादयो भयद्डखव्याषयो वैद्या यद्यद्रोगानुकेक्षन्ते तांस्ताम् रोगान् देरापवैचाः सम्यक्पकारेण सान्वयन्ति ॥ तथया-


 मध्ये पबनवीकरणणाः संस्याः जायन्ते ॥

 रुणा मवन्वि ॥
 मिषधानाुपयोगः सहस्वर्षप्ववेवावर्प्पन्येपु हश्यते ।।
 पश्रिमायबिद्धुपां पमाणपभाणि निप्नर्नर्दी द्धानि ॥




कर्शाल्यन्तं घुखपुपगते दुःखमेकानतो वा

यालेकतोडइसझशखरं पतिरोषषीना-
भाविव्छृतोऽरुणgुर्सर एकतोडक:।
तेजोह्दवर्व युगपहचसनेदवाम्यां
लोको नियय्यत इवानमदचन्न्तरे ॥ २ ॥
(अ-झा) तृतीपपभ्षस्वेत्तरप.
साक्षात्तंबन्धो नारित ॥








 साहाग्यमन्नरा किमपि बिरेषाबिकं न मवति। यदा यदा देगेपु कफोहवणसन्विपातज्वश: (इन्फल्नु-
 तदुणानामायुवेदीयश्रालाम्यः अधिकतर हागो जात: स पदें सरैरापे ज्ञायत एव।

## चुर्वर्भ्न्न्वेत्तरम ।




भवद्विरायुवेददोद्दारार्य सततं परिश्रमः क्रियते चेत् चतुर्थप्रश्नान्तर्गतविष्यार्थेषु यद्यत्पतिपादितंत् तद्वश्यमेव मवितव्यमिति। इदार्नीं क्रचित्कचिद्देशेषु पाठशालाः प्रयोग़शालाः अयुयेदेदीयशाला; पुस्तक्तालास्सन्ति, तथाSपि राजक्कीयसाहाए्यमन्तरा सभ्यक् न प्रचलन्ति । एनदर्थमेव पूर्वमेतत्सामिस्यामार्युवेद्रारज्ञा अध्यक्षा अपेक्षितव्या इति । पश्राव् मवप्रश्षेषु यद्यत्काथेतं तदुपरि विचारः स्यादेव ॥

## पश्षमप्रश्नस्योत्तरम्।

कालिकाताविश्वविद्यालयनियमितया सिमित्या योऽमिभायः प्रकाशितस्तदभिप्रायविरुंदा वयम्। कथमिति चेव, अायुर्वेदशासत्रसिद्धान्तमनालोच्य तथा च अायुर्वेदोद्धारार्थ राजकीयसाहाय्यमन्तरा यद्यत्कथ्यते तदसमीचीनमिति प्रतिभाति ॥ यावत्पर्यन्तमायुर्वेदशास्तरीत्या पाठशालादिकं न स्यात्तावत्पर्यन्तं र्ं भ भवेदिति ।

## षष्ठप्नश्यस्योत्तरम् ।

आयुर्वेदस्याष्टाख्रानि पूर्वकाथततानि। तत श्रल्यादिकमस्ति । यदा मवतां तत्र न्यूनााधिकतज्ञानं स्यात्तार्है आयुवैदशास्त्जानां भिषजां आद्वयविचारः कियतां नाम 4 षष्ठप्वश्नस्यान्तगतषु (अ-आ-इ) विषयेषु पूर्वद्दर्शितपाठशालाध्यापकानां संमतं गृहीत्वा पठनपाठनक्कमश्न तथा चे परीक्षोत्तीर्णानं छात्राणामुपाषि बहव औषधालयाः। कमश्र निर्णेतन्य इति।

## सप्तम्रश्नस्यात्तरम् ।

जयपुरे, श्रीनगरे, मुम्बापुर्याँ, काश्यां, वटपत्तने (वेगहाराजषान्यां), प्रयागमभृतिसथलेषु च सान्ति बहन्यौषधालयानि । राजकीयशासनानुरोधाल्याख्रक्रियादिज्ञानमन्तरा तौन्रव पठनं, पाठनं, ओषषिज्ञानं, संखोषनं, रसायनशास्ज्ञानं, इन्द्रियविज्ञानशास्तन्जानंः सूतिकारोगज्ञानं, रसाद्यौषाष्ज्ञानप्रभृति चिकित्ताज्ञानं समग्रतया मवति। तत्र परीक्षोत्तीर्णानां छात्राणां वैद्यपट्रिकानियमनियोजनविषये नामसंकर्तनंनं कर्तठयमेव । एतदर्थमेव वैद्यपारिषदापि स्थापायेवन्योति ।

अष्टमपश्नस्योत्तरम् 1
आयुवैदाचिकित्सापद्धतिस्तु खल्पन्ययविषयेडतीक प्रशंसनीयेति ॥

## नवमप्रश्नस्योत्तरम्।

द्वितीयमश्नस्योत्तरेषु यद्यत्र्रदाईशतं तस्माज्ज्ञायत एव आयुर्वेदोद्दाराथर राजकीयूसाहाय्यमपेक्षितमिति। कार्यवशान्भवत्प्रभानामुत्तराणि शीघ्रतया लिखितान्यतः "वर्वादो मानुषो भाव:" इति न्यायेन लेखने भमादो नातशेत्रेप्रया क्षन्तन्यमेव ॥

प्रेषिताने मवत्पभ्नानामुत्तराणि विनैव विलंबम्। तत्क्हपयाइड्गीकुर्वन्तु नाम । किमाधिकममिजेषु। अलमतिविक्तरेण ॥

> पाश्रैमालयाविदुषं प्रमाणपत्चाणि निर्दि प्रानि.

It would not be out of place to point out here in connexion with Ayarvedio soience that the Right Hon"ble Mountstuart Elphinstone bears a high testimony and aays: "Their acquaintance with medioines neems to have been very extensive; we are not sarprised with their 41
 the benefit of arooking Dalurs in acthme and the nee of cowitoh agsingt worms. Their ahemional shifition fact thore striking and miore tinexpeoted."

Profeseor Hotact Hayman Wiloon, x.L., y E.s., Prevideat of Medionl Socioty and Profoseor of Oxford, saye the " Theto is remon to conolude fiom the imperfeot' opportanition we ponscw that, in Medicine, in Astronomy and Motaphysice, the Hindus kept pace with the tront enlightened natione of the world and they attained as thorough a profoienoy in medioine and surgery as any people."

Again George H. Clarke, M.A., M.0., apeake of our oystem in termn cif high praice. He
 physioians of the present day would drop from the Pharmsoopacia, all the moderri drage und chemicals, and treat the patiente according to the method of Charaka, there would be leat work fof the undertakets and fewer dhronio invalids in the world."

Professor J. E. Royle, m.D., p.R., \& L.s., Profeasor of Materis Medica, King's Colloge, London, in his Eseay on the antiquity of Hindu Medicine saye -
"Being astisfied of the existence of thene Sanakrit Medicat works at a period antecedent to t 卧 E Arais, it would, no doubt, be intereating to know something more of their contente. The ánitiquity and indeperdent origin of theit Medicine display, I conceive; considertble merit, not only as ubowing that they Bad at ax early period patd attention to whall now conatituto the several branches of medicine, but also they had discovered various kinds of remedies as well as modes of applying them. That many of these are of a valuable nature, we may readily be assured by looking at their Materia Medioa, and our own obligations to it, as well as by remembering how recently some among them of old date, have been introduced inte Eutropentr praotice as the smoking of Daturs leaves in asthma, the presoribing of nux vomion in paralysie and
 valuable, many will be apt to despise altogether the medicine of the Fiact, but if it be reoullooted How long in Europe prevaifed the influence of Galen, and how many absurd formulae atill figure fis come coïtizeittal pfartabopocits as also hiow coriparatively fecent in the time einor our own was so greatly improved, some feeling of hemiliation will control the pride with whion we now view these medical soiences."
*



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 * طبيب ايني رأُ بيماري ك متعلن تايم كرتا
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It is wonderful to note the comparatively advanced views held by the sages of your country and how completely they had anticipated discoveries which we .moderns flatter ourselves are due to the enlightenment of this age.


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*هي
 كع باس يهنما تو أسغ لكها تها
As I go over each fasoioules I arrive at only one conolosion and that is this -
If the physicians of the present day would drop from the pharmacopeia all the modern drugs and treat their patienta according to the methods of Charaka there would be less work for the undertakers and fewer chronic invalids in the world.



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 (ا جانغ نمه •
مــر لغنسل. ماحب وليدرن كي لسهست لكهت بــن •

They knew how to prepare mulpharic acid, the oxide of copper, iron, load (of which they had both the red oxide and litharge) tin and sine; the anlphate of iron, copper, mercury, antimon, and arsenic ; the sulphate of copper, zine and iron, and carbonate of lead and iron.

Their methods of preparing these substances were sometimes peculiar.
Their use of these medicines seems to have been very bold. They were the first nations who employed minerals, internally and that not only gave mercury in that manner hat arnenio and arsenious acid which were remedies in interaittants.

They have long used cinnabar for fumigation by which they provided a speedy and af o salivation. They have long practised inoculation.








Their acquaintance with medicines seems to have been very extensive, we are not surprised at their knowledge of simplest, in which they gave early lessons to Europe. More recently they taught us the benefit of amoking Dhatura in asthma and the use of cowitch against worms.





In medicine you are still more advanced. In tine West it is by no means a science but largerly a guess work. Indian medicine both of the Hindus and Muhammadans is superior to the medicine of the West.

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In surgery, too, the Hindus seem to have attained a special proficiency and in this department, European Surgeons might, perhaps, eves at the present day still learn something from them; as indeed they have already borrowed from them the operations of Rhinoplasty.



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## P. S. Vabier avargal.

(B) From tri Prbsidinoy of Madras.
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Q. 1. The indigenous system of medicine of India has divided itself into many branohes, but it is the Ayurvedio system that forms the foondation of all of these that we are going to deal with. The original works on this system have been lost and those that are available now contain different readings and mistakes. Yet what we mean by the term ' Ayurveda' is that system of medicine which has been dealt with in such Sanskrit works as Charaka, Susrutha, Vagbhata, Vridha Vagbhata, Bhavaprakasa, Sarngadhara, Rasarathnasamuohaya and others and in Sanskrit 'and Malayalam works, generally' followed in Malabar alone such as Chikitsakrama, Manjeri, Manorama, Yogarathnasamuchaya, Yogamritha, Balachikitsa, Vishavidya, Marmachikitaa, Nadichikitsa, Bhangachikitsa, Dharakalpa, Pindaswedavidhi and others. This system, improved according to modern experience, forms Arya Vaidya.
Q. 2. (a) Before describing how disease is caused, it is necessary to describe what disease is. What is called disease (रोग:) by Arya Vaidya is not what we experience in the form of pain, or redness, or swelling or rise in temperature which are only symptoms. What deserves the name of disease is the morbid change that has taken place either in the whole system generally or in any part of it particularly and that is the cause of these symptoms. The body of a man has been divided into three component parts known as Vatha, Pitha and Kapha. Whenever any one of these elements singly or any two of them or all tbree together decrease or increase to an extent harmful to the system, that condition is called disease. रागसतु दाषवैष्यंय_वएमट:_Therefore these three generally called Thridoshas, are regarded to be the Nidana (निदान) or peculiar cause of all diseases. The decrease or increase of them takes place in different parts of the system and in different forms and then we experience different forms of troubles. Diseases are of two kinds Nija (निज) and Agantha (अगन्तु). The former are those that are cansed by conditions originating in the system itself while the latter are those caused by outside conditions such as bacteria, poison and violent pressure or concossion. The chief difference in the two kinds is that in the former the Doshas are disturbed by internal causes and they become uncontrollable gradually, whereas in the latter the outside causes distorb the Doshas all at once and the Doshas become uncontrollable all at once. At all events disease is associated with the derangement of the Doshas and no disease is caused without it. Therefore the immediate cause of all is the morbid irritation or disorder of the three Doshas. The difference lies in the remote causes that bring about the disorder, i.e., the increase or decrease of these Doshas. The causes of the disorders of the Doshas, the nature of them and the symptoms caused by their inorease or decrease have all been enumerated in the Sastric works. They are not given here as it is quite unnecessary. Neither does the Western theory that disease are caused by minute organisms ultimately contradiot this. For it is only to be understood that these minute organiems bring about the derangement of the three Doshas whioh is the cause of diseases. But in the diseases called Nija (निज) the appearance of these organisms must be considered to be an earlier symptom of the disease.
(b) The diagnosis of a disease is made by an examination of the symptoms enumerated in connexion with each disease and Dosha. In this connexion attention is to be paid to five things, viz., Nidana (निदान = cause), Poorvaroopa (पूर्वरूप) $=$ preliminary symptom), Roopa (रूप)= symptom), Upasaya (उपशय)=agreeableness of medicine, etc.) and Samprapth ${ }^{i}$ (सम्भाष्त=mode of attack).

## निदानं पूर्वरूपाणि रूपाण्युपशयस्तथा <br> सम्प्रतिश्वेति विज्ञानं रोगाणां पश्षधास्मृतम् । वाग्मटः ॥

For this purpose the physioians make use of all organs of genses (ज्ञानान्द्रय) and organs of action (कर्मेन्द्रिय.) By these, the eyes, the nails, the tongue, the urine, the skin and excreta of the patient are specially examined and the condition of pulse and respiration are also determined. Special instruments are used in the examination of diseases of the rectum, the vagina, otc. In connexion with all diseases the various forms of the derangements of the Doshas, their different stages, and their looalities have been clearly described together with their respective symptoms and it is not diffioult or a physician of ordinary knowledge to recognize the diseases. The main aim of treatment is to prevent disesse. For that purpose rules have been specially laid
down to regulate a man＇s mode of life（दिनचर्य）with apecial reference to different menona （ऋतुचर्या），to prevent ordinary and contagions disenees（रोगानुत्पादनीय－जनपदोष्वंसनीय）．It many easily be seen that these methods are far superior to the preventive measures prevalent at the prosent time．When it is found that a disease has net in in apite of the preventire mensures，to effect an immediate relief is not alone the aim of A rurvedic treatment，but to prerent any further repetition of it by eradicating its root itsolf．For thic purpose various measures are reoorted to such as हेतुविपर्यस्त（against cause，）व्यषिविवपर्यस्त（against disease）and विपर्य स्तार्त्थकारि（which effects both of the above measures）．These measuree have been divided into two claestan Bodhana and Samana．When a Dosha has increased abnormally Sodhana（शोषन）is resorted to and when it is in less degree Samana（शमन）．Sodhana and Samana are uot of one kind only．They are of many kinds．Before resorting to any of these，it is not sufficient merely to diagnose a disease rightly，but special attention is also to be paid to the tissue affected，to rosiding place，to the bodily strength，to the season，to the power of digestion，to the temperament， to the age，to the mental vigour，to the Sathmya（सात्म्य），to the acoustomed food and other varione conditions of the patient．

# दूष्यं देरं बलं काळमनलं पकृति वय： <br> सतं साल्म्यं तथाहारमवस्थाश्र．पृथविषाः <br> सूस्मसूद्भास्समीक्षैप्यां दोषौषषनिरूपणे <br> यो．वर्तते चिकिस्सायां न स रवलतिजतुचित्। वामटः ॥ 

Even after knowing all these particulars，diaeases are to be treated if poseible by incrensing his vital foroe by means of regulating diet，habit，eto．，and only in inevitable oases the drugging is to be resorted to．This is the aim of the Sastra．It is apeoially laid down that drugs shonld be perfectly harmless．The Ayurveda does not recognize anything as a pare treatment whioh while corring one disease gives rise to another．

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It is booanse suoh prinoiples form the foundation of traatment that the Ayorveda meetu with such approval and following in India．The Ayurveda recognizes many methods of treatment that are not seen anywhere else．Among them are Gudavasthi（गुदवस्ति），Utharavasthi （उत्तरवस्ति），Sneha（म्नह），Sweda（खेद），Nasya（नस्य），Abhyanga（अम्यद्य），Sirovastbi （शिरोवस्ति），Dharas of various kinds，Pizhichal，Navarakkizhi，Uzhichil and Udvarthana．All of these are very effective in ouring varions diseases．In brief，the Ayprveda is very effeotive in almost all curable diseases where surgery is not absolutely necessary．Even in casea where other systems have recommended sargery the Ayurveda has sucoeeded with the belp of druga only． In finding out the ourableness or otherwise of a disease the Ayurveda desoribes the symptoms of mortality（मरणतक्षण）which spares a physician much mistake．This aystem is alsp effeotive in giving temporary relief to unbearable pain of all inourable diseases．
（c）As it has become rather inconvenient at the present time to make use of some of the methods laid down in the Ayorveda，some people have been led to think that in certain diseases and oertain stages this system is not as effective as the other systems．But it may be safely asserted that in most cases of chronio diseases the Aynrveds is more effective．Especially in the case of Indian patients habituated to Indian modes of life，this above assertion is irrefutable． In the thirteen kinds of Bannipathajwara（सल्निपातज्वर）（including many more kinds than the typhoid fever for which a pecoliar treatment is prevalent in Malabar）in female diseases connected with the uterus，in consumption，cough，asthma，piles，urinary diseases，diabetes，boils（居分） anæmia（पाण्ड़ु），erysipelas（विसर्प），various akin dieases（त्वग्दोष），acate and chronio rheu－ matism，eye diseases，mania，epilepsy，most of the non－surgical diseases above the shoulder， fraotares（मङ्य），veneral diseases，poison，importance，etc．，no other systom is as effective as the Ayorveda．However，it is not to be forgotten that in some cases a combination of the two aystems will be more effective than either of them applied singly．

Q．3．（a）There is only the Arya Vaidya College of Calicat conducted by the Arya Vaidya Bamajam．Here there is not only a well－arranged syllabus but also a medical graduate of the Madras University gives leotures on Anatomy and Physiology with the help of modele．

These lectures are generally regalated in the light of the Ayorveda. For practioal training in treatment there is, connected with the Oollege, a branch of the Arya Vaidya Sala dispensary also: In addition to this the students undergo a practioal course at the Arya Vaidya Sala at Kottakal in the end of their stady. I am the secretary of the abovementioned Samajam, the principal and manager of the Arya Vaidya College, an examiner of this oollege and of the Venkataramana Patasala at Madras, and one of the founders and editor of the medical monthly 'Dhanwanthari'. Besides this I have purchased land sufficient to locate an up-to-date-Ayurvedic Hospital and College with a library, laboratory, maseum and a garden of medical plants; and buildings have begun and are in progress.
(b) The medical aid given at most of the institutions in Malabar, i.e., at the Arya Vaidya Sala at Kottakal, and its branch at Calicat, and those established by the suocessful candidates at the Arya Vaidya Samaja Examination, and by the pandit members of the above Samajam, as well as at institutions maintained by a few other well-known physicians is generally satisfactory,

The Arya Vaidya Patasala at Calicat, the present Arya Vaidya Sala at Kottakal and the hospital and college that are going to be established at Kottakal are suitable centres for giving Ayurvedic instruction.

The arrangements for practical training are not quite safficient now anywhere, but, it is expected that the institution now projected at Kottakal, when accomplished, will remedy this defeot.
(c) There is -no provision sufficient at present to give medical relief and medical education on indigenous lines. The existing institutions are quite inadequate if we consider the number of soffering hamanity. To remedy this defect there must कe established in each district at least one model Ayurvedic Hospital and College; three or four dispensaries in each taluk according to its area; and a good practitioner should be engaged in each village. In all these places arrangements must also be made to give free medioal help to the poor.
Q. 4. (a) I consider the ideal medical training of the indigenons system requires-
(1) that the students should be placed under the personal guidance of teachers of firstrate ability and of recognized standing in their subjects;
(2) that the teachers and students alike should have access to well-appointed hospitals, laboratories, maseums and libraries established on Ayorvedic lines; and
(3) that the teachers should have sofficient leisure to be able to poraue independent investigations in their own subjects.

Besides these, I am also of opinion that the students must get free admission to medical gardens and manufaotories of medicines. The Ayurvedic College at Oaliout has been started with this view. But it has not at present reached completion. It is believed that when the projeoted Kottakal institation is complete this stage will be attained.
(b) (1) This ideal is not too high. The altimate aim should be, first, to improve the treatment by medioine till it reaches its former height of perfection and then to supplement it if necessary by adapting useful portions from foreign systems and, secondly, to effect improvements in sargery by combining old and new methods and making it more effective and harmless than it is at present.
(2) The immediate aim should be to give proper instruction to stadents in the old medical works after making necessary corrections in them, and to encourage minor surgical operations by not attempting difficult ones for the present. This is being done in the College at Oaliont.
Q. 5. I do not oompletely agree with the opinions of the Caloutta University Commission. This system is indispensable for Indians owing to their peculiar mode of life, their constitution, the climate, eto. Owing to the difference in their mode of life, foreigners may find only eertain portions of it suitable to them. As far as medicine is concerned, the Ayorvedic system has very little to borrow from other systems. What is necessary is only to understand its principles oorrectly. For this a knowledge of other systems may be found of some help. It is not so easy to resuscitate sargery on Ayurvedic lines. Here the modern system will have to be followed. Only a little can be got in this department from works now available.
Q. 6. It is not absolutely neosssary to take into the syllabus of the indigenous system of medicine modern Physios, Chemistry, Biology or Bacteriology. However, Anatomy, Physiology and Pathology may find a place there till those of the Ayurvedic system is completely revived. Burgery also must be added.
(a) The syllabus preseribed for the examination for the Vaidya's diploma of the Arye Vaidya Samajam corresponds to that for the L.M.S., and that for the Siromani diploma, to that of M.B. A printed eopy of it in Malayalam is herewith sent. If this syllabus is followed, a fuller knowledge of medicine oan be obtained than other doctors but the knowledge of sargery will be less.
(b) A tolerable knowledge of Sanskrit and English is necessary. Sanskrit is indispensable. The course for the Vaidya examination is one of four years and that for Siromani five years.
(c) Sanskrit is best. Vernaculars also may be used.
Q. 7. I think it is necessary to extend medioal registration to indigenous system also. For this parpose-
(a) A suitable Registration Board must be formed for admitting oompetent practitioners into the medioal register.
(b) In the present $\Delta$ ot for the Registration of Medioal Practitionerse all rach parte, if any. as are defamatory to phyoicians or to the indigenons astem of medicine muct be repealed.
Q. 8. The cost of treatment according to indigenoas ajatem is mach leem than the $\mathbf{A l l o p a t h i o}$ one for the following reasons:-
(1) All of the drugs are indigenous and most of them obtainable in patient's own rillage with a very little expenditure.
(2) The method of preparations too of the majority of the medicines in very cimple and easy.
(3) Many diseases are cured by effecting some alight alterations in the bathing oilb, ghees, water, eto., of daily nse.
(4) The rate of medical fee is very low in this system.
(5) By experience an ordinary man can select and prepare many medicines suitable to his ailments without any asesistance from medical men.
(6) A single western medicine cannot be obtained without high price.

- Q. 9. Within recent years, it cannot be aaid, that the indigenous aystema of medicine are deteriorating. For the last twenty years they have been slowly improving. This is due to the efforts of the Kavirajees of Calcutta and of the Arya Vaidya Bamajam of Malabar. Before thene enterprises began they bad certainly been deteriorating for about two thousand jeare. (1) The first cause of this is the same as that of the downfall of the Hindu Kingdcms. Owing to the numerous foreign invasions and the consequent unsettled state of the country most of the anoient works on the medical science as well as the traditional transmission of the secrets of the medical profession were lost. (2) Eecondly, owing to the imperfection of the knowledge of those that collected and put together the difficult parts of such works and to more clerical faulta, many mistakes bave orept into them. (3) Thirdly, these mistakes could not be corrected and the Brahman medical men especially of Malabar were not only quite contented with the cures effected with medicines only withont paying any attention to the anatomy and practice of surgery, but would not teach it to the people of other oastes. (4) Fourthly, after the eatablishment of the British Government, although there has been lasting peace in the country, they did neither encourage nor even recognize this system. Neither did the people of the country urge in proper way that it could be recognized. (5) Fifthly, those that were rich and influentinl among the people, as they could command the services of any skilful medical man wherever be might be found necessary, looked only to their own selfish ends without doing anything towards the resuscitation of the Ayurvedic system or to help those that practised it. (6) Bixthly, by this, all institutions for the instruction of the students in the aystem or for ita practice dird a natural death. (7) Seventhly, owing to the perfection of the arrangements neoessary for the practice of the English system of medicine, to the immediate effect of the medicines and surgery of that system and to the purity of ite medieines and the convenience for obtaining them, the Engliahedrcated people were easily captured by it and the rich people followed their example. The unostentatious habits of the indigenous physicians and severe restrictions of diet, etc., that they imposed on their patients also helped this abandonment of the indigenous ayatem. (8) The indigenons system having thos ceased to be helped by rich people, its teaching and practice deteriorated and its practitioners were reduced to a state of doing anything only for their livelihood. (9) Ninthly, in consequence of this all opportunity was lost of referring to higher works or of improving the science in its proper way. (10) Tenthly, it is not the custom of Ayurvedio physioians to teach others any seceret that they may get by inheritance tbrough a line of disoipleship. The above conditions seem to me to be the canses of the deterioration of the indigenous system of medicine.
$\therefore$ To resuscitate this system the following things most be done.
All the available works on the medicine must be collected and one of them should be ohosen as the approved text for examinations. In my opinion Ashtanga Bangraha is the bost for this purpose. However, the Bareerasthana (शारीरस्थान) of this book must firstly be revised and made more clear and the remaining parts mast be suited to it. Secondly, after this, the other important works also should be corrected. Necessary additions must be made either by translations or collaboration of experts in portions still deficient. Thas texts most be made. Colleges with all sorts of accessories most be started where instruction can be given to gtudents. Both the people and the Government must be ready to recognize and encourage candidaten that come out successful in the examinations. Numerous free hospitals and dispensaries must be established to help their practice according to the revised system.
Q. 10. The Government and other Agencies ahould help the Ayurvedic system as followa :-
(a) Government should start and maintain institations on the above lines and belp thowe that maintain similar institutions. They should register all existing physicians of ability and public confidence after some slight examination or even without it. Certificates given by such. physicians must have the same value as have those given by the English Doctorso
(b) Local hoards must establish free Ayorvedic hospitals and dispensaries and help others that maintain such institations.
(c) Universities most affiliate Ayarvedic colleges and grant degrecs to candidates. atccessful in the examinations.
(d) Private agencies-Liosel jenmies and other rich people as well as Devaswoms and other bodies most maintain Ayurvedic hospitals and other aimilar institutions.

If the above oonditions are fulfilled, I am of opinion that this system will be highly advanoed in a few years.
(2)

## m.r.Ry. Pundit K. C. SUbramaniya pillai avabgar.

Ayurveda Siddha Vaidya is the division of indigenous system of medicine which I have beer dealing in and my venerable father Doctor K. Chandrachakaram Pillai had been handling in, for generations.

Theory or theories of cansation of disease is no small subjeot matter to confine it to a few lines to justify my answers as every disease has its own causes to spring ap or to apread on, under rule "flesh is heir to." The preservation of health is the high end of medical acienos. By two-ways it is attained. The first is to conquer disease when it invades the body, the gecond is to keep away disease by observing preventive rules. The discovery of these rules is generally regarded as more important than the study of disease and of the means of cure. By health is understood the enjoyment of the period supposed to be alloted to man in perfect ease, that is with oheerfulness and strength and unchanged complexion and the rest.

The rules in respect of food and exercise, by observing rigidly, every person succeeds in keeping his health constitute this branoh of medical science, which is known by the name of hygiene. Health is certainly a desirable possession, for upon it, depends the proper performance of every act needed for this life and the life to come. If health be absent, all exertion becomes painful that has for its object, the acquisition of knowledge and wealth and fame, in fact the fulfilment of every legitimate desire. Those observances and sacrifices again, which lead to felicity in the life to come become impossible in the absence of health. It has been said that if a person possesses all the advantages of life such as palaces and parks and beautiful gardens and large estates and loving children and relatives, but is bereft of health, his condition is infinitely more miserable than that of one who while bereft of these is in possession of health. Led by such considerations, the anthors of anoient Indian medical science gave prominence to the subject of health. Their works begin with instructions in respeot of these rules, by the due observance of whioh, the inestimable boon of health may be within every one's reach. As this work professes to be a repository of these ancient treatises, it is desirable that the rules relating to the preservation of health, be first laid down.

Those persons who are in the enjoyment of health, that is, they in whose constitutions the three forces or conditions, called wind, bile, and phlegm, are in harmony and who possess the eight constituent elements, namely, the fluids, blood, flesh, fat, bones, marrow, vital seed, and the vital fluid (sperm), in a normal measure and whose urine stools, perspiration and other secretions do not exceed the measure that is proper, should rise from bed at early dawn, namely, aboat an hour and a half before sun rise.

They should then answer the calls of nature ; and wash their teeth and mouth sitting with face towards the east or the north. They should wash their teeth, using as tooth brush, sticks of proseribed drugs (tree or plant) that is pangent or bitter or astringent in taste, taking care to first chew one of its ends repeatedly till it assumes the form of a soft brush. They should perform the operation in a way as not to hurt the gums or draw blood therefrom. They should next clean the tongue with a hook made of gold or silver or copper. The edge of the instrument must not be sharp. Thus wrashed; the mouth becomes freed from every kind of foetid smell, and as the result thereof a relish aqises for food. Those who are suffering from dispepsia, indigestion, nausea, asthma, consumption, ferer thirst, sores in the moth or diseases of the ohest, the eye, the head, and the ear, should never vese tooth sticks. They should use powders honsehold or medicated, or burnt oowdung. One should wash one's mouth in the afternoon also as in the morning.

The process of washing being over, one should undergo physioal exeroise in the proper measure. That is regarded as the proper measure which brings on drops of perspiration on the forehead accompanied by partially quick and heavy breathing. In other seasons than Winter and Spring, the measure of exercise should be even less than this, for excess in this direction may lead to such diseases as abnormal thirst, waste, shortness of breath, consumption, fever, eto., etc. Physical exercise, indulged in proper measure- brings about a lightness of the limbs, oapacity. to bear fatigue and pain and strength of the digestive fire, loss of fat and symmetry of shape.

Children, those that are aged and those that are suffering from exoitement of wind or bile or indigestion should not indulge in physical exeroises. After exercise the body should he gently rubbed, inasmuch as this dispels fatigue and restores ease to all the limbs.

After fatigue has be en perfeotly diepelled, one shauld bathe, having first rubbed the whole of the body with oil, partioularly the head, the soles of the feet and orifices of the ears. The use of oil makes the body firm, enhanoes its growth, imparts to it the capacity to endure fatigue and pain, and renders the skin agreeable to the touch and improves the complexion. After rubbing the body with oil, one should bathe in a olear stream. If no good stream be available, water first boiled and then cooled, should be used. If one wishes to bathe in warm water suoh water could not be poured upon the head? This is theory though not in practice. Bathe in

Warm water may promote strength of the body, but if warm watar is poured on the hoad, it is said that the strength of vision is deteriorated. Baths deatroy foetid edourn of the body and overy kind of filth accamulating on the skin. 8weat and the reat best washed off, gond looke are restored. The limbs become light. Sleepnesa and itching disappear. The body becomet etrong. The experience of all men agrees regarding the aapacity of batha to diapol uleepinem and lethargy. It is said that Napolean Bonaparte who was frequently obliged to forego slerp, found that a bath in cold water refreshed him greatly in the morning. He regarded a bath aia good sabstitute for sleep. In the same way the prinoipal rules of Hydropathy are laid down and cheerfully practiged by a few of its ardent disciples. Once upon a time while I was assistant to Doctor Danakoti Rajn, m.d., I was enjoying prinoely bathe in hia Mydropathic hospital at Palamcottah in Tinnevelly distriot. Oh i What an onviable institution it was during the lifetime of the famous doctor, who was renowned for hin universal water-oure treatment.

Rules about food.-After bath, one should sitting in a clean place and erect posture, ant The food eaten should be lukewarm and oily. It should consist of different kinds of edibles, so that all the six tastes may be present, namely, sweet, sour, pungent, bitter, aline and astringent. It ahould be nutritious and so prepared that one may have a delight for it. It should again be served by a person who bears affection or love for the eater. One should not eat very quickly or slowly. Proper measure of food should be taken so that the body should remain light after eating. One should eat till hunger and thirst are appeased. After eating is over, one should chew spices enclosed in betel leaves. Within the first fourth part of the night one should take his second meals as described above. After sapper, one should sleep in a dry clean, and ventilated room on a wooden bedstead. The bed should be soft and suited to the sasson. The daration of sleep should be from six to eight hours. For proteeting the body therefore sleep of the required measare is as much necessary as food of adequate quantity.

To indalge in sexual oongress in proper measure is also necessary for the protection of health. Season should not be disregarded because Sommer is ill-auited to this indulgence. The woman should be full of desire and should be a willing party. Similarly in sexual congresa one most not act against the course of nature. Persons affeoted with fever and other disease should oarefully abstain from sexual intercourse. Regards must be paid to the six seasons of every year, and all precautions must be taken to suit onesalf in adhering to the dictate of nature.

Besides these daily practices and the especial acts for especial seasous, there are othert whiah are laid down for persons desirous of keeping up their health. These are meditations on the Deity as also prayers and worship, after the performanoes of ablutions in the morning and also in the course of the evening twilight. One's rale of conduct should be to show compassion towards all creatures. By properly observing these rules about health, one sacoeeds in avoiding disease and enjoying the bost life. It is olear, therefors, that every human being should strive his best to keep up his health:

If these rales of health be not observed varions diseases spring up in the body.
Note.-Pure water, distilled water, well-water boiled and oooled for drinking purpooss, leap of diseace at a distance. Care should be paid in procuring drinking water at times of fearful infeotions.

Regarding the principle and methods of diagnosis and treatment followed by me in Ayurveda siddha Faidya system I beg to state to the committee that at the ontset must the disease be ascertained, after this the medicine; after this, should the physician treat, the disease with full knowledge.

One of the essential requisites of treatment is the ascertainment of the disease under which the patient is suffering. If the disease be not correctly ascertained, proper medicine cannot bo presaribed. It has bjen remarked by an ancient writer that if a man cannot be called by his own name, he will not answer; if again is called by a name that is not his, he may answer but never willingly and without wrath. After the same manner if a disease be not rightly diagnosed, it will never answer or obey the physioian's commands. Briefly speaking, there are three aids to correst diagnoses. They are (1) instructions reseived from books and teachers, (2) observations and (3) inference. At the outset the physioian should carefully ascertain every particular about the patient'and his sufferings and then compare the patient's state, with what he has read in books or heard from teachers. After this he should exercise his power of inference about the causes which have led to the disease and their strength. While answering every particular about the patient, the physician should use all his senses for examining him. For example, the patient's complexion, features, size (leaness or fatness), aspects as also his stools, orine, eto., being objects of vision shonld be examined by the eye. The history given by the patient's malady and the antecedent oircamstances, his groans, if any, the sounds produced from his chest, atomach and other parts of the body, being objects of hearing, should be heard. The smell of the body of his stools, urine, semen, and ejected matters should be examined by the nose. The heat of the body and the coarse of the pulse should be examined by the touch. It is not alwaya possible for the physician to employ his own tongue for examining the patient. But in diabetes and other complaints, the sweetness or otherwise of the urine and in certain diseases, the tastelessness of the whole body and in bilious hæmorrhage the taste of the blood, may be ascertained through other oreatures such as ants, crows, doge, etc. The appearance of little vermin all over the body - hows its tastelessness, while swarms of flies sitting over the body shows its sweetneso. Anta
prove the sweetness of the urine. In bilious hæmorrhage, doubts often arise whether the blood is life blood or any vitiated liquid extraneous to the system. In such cases a little of the liquid should be given to the orows and dogs. If these animals drink the awkward blood, it should be regarded as life blood, otherwise it is not so. The strength of the digestive fire, the strength of the body, the presence and absence of consoiousness, the strength of the memory and the general habits of the patient should be ascertained by observance of special acts. Diabetics sometimes differ slightly. In such cases, by administering in a light dose, a well ascertained medioine and marking its effects upon the patient, in respect of aggravation or amelioration, the precise disease may be diagnosed.

In answer to (c) of $2, I$ beg to say that in some instances the treatment by means of indigenous drags are marvellously and wonderfully more efficacious. For instance diabetes, fever, veneral diseases and diarrhcea. I am specialist in diabetes, my medicines are good, as far as my experience goes right. In stricture the oil ashmari which I prepare myself is unequalled. Fever I control in half a dozen doses. In venereal diseases, Sulini Thylum never fails. I am prepared to prove the efficacy of treatment by means of indigenous drugs more preferably.

I had my own dispensaries in Anamalai and Kanyur working at my own oost, and distributing medicines gratis to hundreds of patients daily. The one at Pollachi has been in existence for many years, and it is within easy reach of all poor people more preferably women and children. Further I beg to add that I was giving instructions from books on indigenous system of medioine to some students. In fact $[$ am known as Ayurvedic pandit possessing some capacity. In preparing some of my patent medicines though not registered, and offering them for treatment among my friends to whom I had been family physcian. Some time ago the Calcutta Medical Association was under Dr. Wallace who was editing Indian Medical Record. It was a monthly magazine. I was a constant contributor to it. They styled me a member of that institation. They added C.M.8. to my name (meaning certified in medicine and surgery.)

Regarding question 3, I beg to say that the existing institutions of indigenous system of medicine are of course praiseworthy though small in nombers. Because the new reform act gave life to Conncil members to discuss so great a vital sabject and brought into existence a committee to hear the various opinions with a view to revive the same wherever possible.

Considering the numberless institutions wherein are taught western medicine, and surgery and wherein innumerable patients are being treated with western medicines by our benevolent Government, the small number of indigenous institutions may be reckoned to be inadequate. However we have hopes to have more encouragement based upon the eradite and practical report of the committee which is expected to do, its utmost duty in the genuine interest of its mother land.

In answer to question 4, I beg to state that the training of the students onder efficient staff of teachers require supervision till the students are declared fit to impart their scientific and skilled knowledge to the needy population so that their merits may be adequately shared by the suffering public. Their free access to hospitals, museams, laboratories all libraries may be doubly profitable to them, if they are really interested to obtain both the theoretical and clinical knowledge in all branches of medical science.

In my humble opinion it is not too high at present to seek for this ideal inasmach as the long-ooveted desire is about to be obtained at a near fature.

Regarding the Calcutta University Commission Report, I dare not criticise their views, as they were advanced by literary and professional gems of India, whose vast experience of both the hemispheres, has been an unquestionable hypothesis based apon sound principles. If in Southern India we are blessed to have hospitals or medical institutions imparting indigenous aystem of treatment, there may be a day at a near or a remote future when the western and eastern experts in medicine may be forced to stand side by side and defy each other. In India as at present, no unified system of medicine can be promising as India is rendezvous of different. nations keeping their changeable activities. Of course, Indians have their own physiology for themselves to study. They are not inferior to others' sciences. In these days of economios, (sooial, political) and history of economics is also being taught for B.A. students in colleges. I am afraid the term economy will lose its intrinsio value if superfluous suggestions are added to. Even compounders of hospitals nowadays with their theoretical knowledge in dispensing obtain their daily practioe, in spite of the vigilance and the fearfal presence of their ohief controlling authorities. So, no fear need be entertained with novice practitioners qualified in indigenous soientific treatment who are sure to avoid suffering of patients instead of being a barden to them.

The study in elementary principlea of medicine added to advanoed culture aspiring for higher standards, may suffice for the present, as is the oase with sub-assistant surgeons who have been really useful to the suffering population doing true and sincere services.

The period of study may ran from one to three years acoording to the corriculum which may be made feasible to all.

Rigorons registration of praotitioners may seriously tell upon so many who are in close touoh with their present day phy sicians.

Regarding comparative oost of Allopathic and indigenous mediaines, the latter coot very little. At least 50 per cent may be conveniently anved deducting all extra contingencies comarde preparations of medicines. They are all bacaar medicinet, hounehold draga and foreat-planta. Unavoidable neglect on the part of rulers and officere under them wowarde Hinda medioines forved them to go to Government hospitals in addition to the prosent day oivilimation and wne the canoo for deoay of indigenous system of medicine. Even in Native States the same wee the finte with the indigenous aystem of medicine.

The State can afford to do anything. It can review the whole thing if it likes and introduce a new line in this particular branch as it is within their own control and guidnnoe. But care should be taken not to wound any one'a feelings but ameliorate the condition of the renowned ancient Indian healing art.

The local board ean afford to contribute towards private enterprises in introducing the hospitals and schools of indigenous system of treatment if they oannot afford to provide them independently.

As regards Universities they are full of literature, economios, history, soience and all. They need not be depending apon others' views. They will set examples for othere to follow.
(3)

## M.R.Ry. V. NARAYAN NAYAR Avaraar.

## Answers to the Questions.

Q. 1. I propose to deal with Ayurveda. It is well known that the Ayurveda, translated into Arabic, was atudied and practised by the Muslims, and their physioians brought it again to India under the name of the Unani system. That aystem was introduced here with auocese owing to the encouragement given to it by the Mubammadan rulers. Since then the Unani system prevailed among the people, especially among the Muhammadans of Northern India. 8othe Unani system may be recognised as a separate system and dealt with as such. But there is very little reason to consider the so-called Siddha Vaidya as separate from Avarveda. Some portions of Ayurveda were translated into Tamil and practised by the Vaidyas of Southern Indis. These physicians were known as Siddha Vaidyas. The word 'Siddha' means only 's Rishi'. The Tamil Vaidyas use more of the preparations from 'Rasa ' and 'Pashana' (mercury and arsenic). There is a slight difference in their theranpeatics and mode of administration alo. But that is not sufficient reason to consider the system as distinct from Ayurveda. There is nodifference between the Ayurveda in Sanskrit and the Tamil Vaidyam in the theory of causation of diseases, symptoms or the important principles of treatment. The langnage or phraseology. oannot make two systems separate from each other. If we recognize the difference in language, then the Ayarveda should be divided into so many aystema as Bengali Vaidyam, Teluga Vaidyam, Hindi Vaidyam or Malayali Vaidyam and dealt with separately. So I think it would be better to include the Siddha Vaidya in Ayurveda or call the latter by a new name of Siddba Vaidyam.
Q. 2. (a) The Ayurvedic system is based on the theory of the three 'Doshas ', viz., Vayn, Pittham and Kapham. This theory of 'thridosha' does not correspond to the old theory of the three humours. This thridosha is the name given to the latent force of the macrocosm classified under three basic principles. The thres 'doshas' are forces and not substances.

The thridosha theory has no connexion with the methods of the modern science. The modern scienoe tries to analyse matter into its component substances and terms them accordingly, thus creating an ever increasing variety of substances and becoming itself imperfect. The ancient science, on the other hand, tries to classify the forces underlying the substances according to their fanction in virtue and became perfect. The underlying principles of Ayarveda and modern science differ a good deal in the method of explanation. This difference in expression was created by a similar difference in conception also. It is no wonder, then, that the modern acience became dissimilar to the ancient science owing to the difference in conception, interpretation and phraseology. So I think it is annecessary and fatile to try to have an interpretation of the thridoehs theory of Ayurveda in the terms of modern science.

A knowledge of the basic principle underlying the region of organic and inorganic matter of the phenomenal world, the structure and functions of the different parts of the homan body, the normal or healthy state of the body and the changea that occor doring the state of disesess, the pathology and symptomology of diseases and the method of healing are to be importantly dealt with in a good system of medicine. It is essential to examine the Ayurvedic system with reference to the above points and see whether it has assimilated the said points and can stand the test of reason and the critioism of learned authorities. If it can, it should be recognized as a competent medical aystem. If we make a minute study of the works of ancient anthors as 'Susrutha' ' Charaka', etc., with the above object in view, we can find the theory of thridosha as rational and satisfactory. It is to be admitted that even those physicians who have made an elaborate study of these ancient works may find it difficult to interpret the system in the langoage of $r$ गdern acience or convince the modern scientists. But according to the wishes of the Committee I propose to give a brief description of the same.

As in the case of all other living matter, so in the human body also, a oertain force is perceived manifesting itself in different aspects. The force that cannot be perceived by the senses but can only be inferred by means of reason or intellect is known as 'Sukshma Sakti' or subtle force. Its external manifestation is known as 'Sthula Sakthi'. The most subtle living force is known as 'Jnana Sakti' or thought force. The first impulse created in the action of the different senses and their capacity in their functions are the products of the said thought power. The most visible form of the said force becomes the primary cause that controls our cognitive and organic faculties and produces the varions motions of the body for inhaling and exhaling, taking in the focd and the secretion and discharge of waste matter. The resultant or most visible that is evolved out of the thought force is known as the force of action or 'Sthula or Kriys Sakthi,' which is the power of motion manifested in the body. The force embodied in the brain centre, the nervons system and the various nerve currents and producing the sensory and motor functions is termed in Ayurveda as 'Vaya'. This Vayu of the Ayurveda is not wholly a phyaical or organic force, but has its spiritual aspect as well. The Ayurvedic system is concerned more with the potentiality of the components of the human organism than with its gross members. Thus we see that the term Vayu is applied to the whole range of forces from the more subtle thought force to the more gross manifestation of the bodily motions, including the co-relative functions of the body by virtue of which one part of the body is able to exert a direct influence on another, or the bidy becomes a source of molar motion by its parts as a whole. It is the one force which runs through the spinit, mind and matter and is called Vayu because of its motion (va - to move).

The grossest manifestation of Vayu is attributed with the 'gunas' dryness, lightness, clearness, coolness, motion and subtlety. The function of Vayu in the body are the imparting of motion (Praspandana) the carrying the sensations of the various sense organs (Udvahanam), taking down the food through its proper receptacles (Puranam), the separation of excretions from the assimilated food (Virechanam) and retention of the orine, semen, etc. (Dharanam).

The generative function that assists the process of reprcduction which is the detachment of a part endowed, with the power of developing into an independent whole is performed by the force called 'Pittha'. Pittha metomorphoses the 'Rasa', or essence of assimilated focd, through a successive series of organic principles to the protoplasmic substance. Pittham signifies the agent of metabolism. The term denotes two different organic principles-the heat inherent in the bile, the principal agent in performing digestion, and the metatolism which prodoces the bedily heate (digestion and oxidation). Both Pittham and Kapham are transformations of the same energyVayu. The action of Pittham is the production of positive heat, and that of Kapham is the production of negative heat. Thus we see that the term Pittham is applied to the metakolio processes in the organiem as well as the flid heat incarcerated in secretions of the liver and acts as the agent in the process of digestion. Pittha is caid to be latent in serum, blocd, lymph chyle and albumen, etc., and in the organs of touch and sight. Heat, keenness, lightness, etc., are attributed to the manifested Pittham. Pittham supports the body with the supply of bedily heat, power of digestion, sight, thirst, hunger, appetite, complexion, intellect, power of memory, smartness and softness of the body.

It has already been said that Pittham and Kapham are tranaformations of Vayu and that Pittham is the positive heat of the body. Kapha is the negative heat or the cooling principle which prevents the excessive effect of the bcdily heat by means of its humidity and keeps intact the different componentamolecules. It supports the bedy with the supply of power of endarance, the development of organs, strength, emcothness and coolness. Kapha is the function which regalates the material composition of the body determining its mass-the balance of the process of waste and procers of assimilation. Kapha fills the cellular spaces of the body, holds them together in a kind of cooling cohesion and prevents the combustion that may otherwise be cansed by the organic heat. The 'gunas' attribnted to the manifested Kapha are whiteness, coldness, oiliness, heaviness, smoothness and firmness.

The location of Vayu, Pittha and Kapha are generally said to be the lower, middle and upper parts of the body respectively.

Each of the three 'Doshas' is divided into five different sabdivisions according to their locations and functions, thns making the 'Thridosha' theory perfect. A correot knowledge of these subdivisions with their functions assists the Vaidya in correct diagnosis of diseases and preseription of suitable medicine.

The 'Doshas' in their normal state keep the body healthy and in their deranged condition cause disease. Derangement means increase, deorease or dislodgment of these 'Doshas '. The ancient books have described the symptoms that attend the deranged state of the doshas. When oertain changes are perceived in the body, it should be considered that one or more of the doshas have become vitiated.

The increase of Vayn is followed by roughness of akin, blackness of hue, emaciation, tremor of limbs, desire for heat or hot things, loss of aleep and decrease of strength. A deorease of Vayu is marked by langour, shortness of speech, uneasiness and loss of conscionsness, eto.

The symptoms of an excited or disturbed condition of Pittha are a burning sensation, yellow complexion, perspiration, impurities, decrease of strength, ycllowness of stools and urine and aleeplessness or a dull complexion, decrease of bodily heat and an impaired state of digestion, to.

The indications of a deranged state of Kapha are whitenews of the akin, coldnesa, dullnem, heaviness of the limbs, a feeling of looseness of jointa and excesaive aleep, etc.

All of the abovementioned symptoms may not be soen in a cortain disease or the aymptoma may be mixed or complicated. In that case we desaribe the derangement to a certinin doshe taking into consideration the major portion of the symptoms The above in ouly a brief deacription. It is not possible to give here a detailed description of the 'Thridosha, theory. An elaborate knowledge of this theory is most essential for an Aynrvedic physician. That knowledge assists him to diagnose and treat all cases of diseases. Eiven unknown and new dipesser an Plagng Inflaenza, etc., may be diagnosed and treated acconding to this theory with a gront amount of success. There are prescribed drugs and medicines for increasing or deoreasing the doshas and for retaining them in their normal state. There is an abondanoe of models and ideala of trmatment of these doshas in our Shastras. We are prepared to submit our theory and practioe to investigation and criticism. It cannot be said that we require no knowledge of anatomy and physiology in the diagnosis and treatment of diseases, but we perform them satiafnctorily with the aid of a clear knowledge of the theory of 'Thridosha' alone
(b) Principles and methode of Diagnosis.-In the diagnosis of diaenses we take into consideration the following five important points :--
(1) Nidana, or causes distant and immediate, direct and indirect, such as abnormal diet, history of the disease, including hereditary, eto.
(2) Pragrapa or preliminary symptoms during the inquibatory stage of the disease.
(3) Lakshana or Rupa, the actnal symptoms at the time of diagnosis or the symptoms manifested in the mature state of the disease.
(4) Upasaya, or an experiment. Here the physician adminiaters oertain medicine and diet and finds out by the improvement or aggravation of anch treatment the nature of the original disease.
(5) Samprapthi-tracing the morbid or deranged conditions of the organs supposed to be affected. By this point we ascertain the balance, importance and the proportion of the dosha deranged.

We ascertain the above points -
(1) by a proper use of our senses,
(2) by means of questions,
(3) by means of touch.

The Ayurvedic physicians have developed the power of observation to a great extent. Though we do not use any instruments, we atilize all possible means of detecting the disraee at our command and employ all the five senses and thus arrive at a correct diagnosis according to our method. We pay special attention to the nature of the disease, the locality, the season of the year, the state of the patient's digestion and appetite, his age, bodily strength, habit, disposition, natural temperament, power of endurance and previous treatment.

We examine particularly (1) the pulse, (2) temperature, (3) complexion, (4) sound, (5) the eyes, (6) the stools, (7) the urine, (8) the tongue. This is known as the examination of 'Ashtam sthana.'

In the examination of a patient we make use of our five senses in the following way :-
(1) By the eye we examine the patient's complexion, features, size, aspect, eyes, and also the colour of his stools and urine:
(2) By the ear the groans if any, the sounds produced from the chest and the history of the disease and its antecedent circumstances.
(3) By the nose the smell of the patient's stool, urine, blood, semen, sweat and his entire body.
(4) By the tongue, the taste of his stool, urine, blood and the tastelessness of hie body. The physician does not use his own tongue for this parpose bat ascertains the taste through other creatures, such as ants, crows, etc.
(5) By the sense of touch, the temperature and the pulse.

By this examination we ascertain the dosha deranged, minate details regarding the variety of the disease, the stages of the vitiated dosha, the primary and secondary diseases or complications, the strength of the disease, the course of the disease according to season and time.

## Principles and method of treatment.

In our system of treatment, the potency, efficacy and virtue of the drag is taken into consideration and not the component matters of the drugs. In treatment we have in view the law of 'Sama' or similars and 'Vipareetha' or contraries. The theory is that a aubstance has aggravation by the contact of similars and decline by the contact of contraries. The principle of treatment is the application of contraries.

Ayorvedic treatment is primarily classified under two heads -
(1) Shodhanam or clearing of the body of the vitiated Doaha, and
(2) Shamanam or palliation which consista in restoring the deranged doshe to ite normal condition.

## Shodhanam has five means known as 'Panchakarma'-

(1) Virechana or pargation.
(2) Vamana or emitics.
(3) Nasya-cerebral purgation or errhines.
(4) Vasthi or enema (both dry and oily):
(5) Rakthamoksha or letting blood by vivesection or leeches.

Shamanam has the following seven methods :-
(1) Deepanam or increasing the digestive fire.
(2) Pachanam or promotion of digestion.
(3) Kshath or enduring hanger.
(4) Thrit or enduring thirst.
(5) Vyayam or physioal exercise.
(6) Athapam or exposure to sunlight.
(7) Maratham or exposure to open air.

There are certain preliminary preparations to be performed known as 'Purvakarma' provious to the treatment proper. They are 'Sneha' and 'Sweda'. Sneha is the administration of cortain greasy preparations of ghee or oil internally and externally. This separates the morbid matters that stiok to the tissues. Sweda is a method of prodnoing perspiration which brings the waste matter to certain parts of the body suoh as stomach, intestines, ete., from where they can be easily removed by means of purgation, etc. Drugs are classified into varions olasses according to their properties as pargatives, emitics, diareties, diaphoretics, ets. Thus it is easy to select the drugs required for a partioular treatment: There are particular methods of administration also prescribed by our Shastras.

After the above 'panchakarma' is performed, the administration of certain druga of a mild character may be necessary to assist nature in restoring the tissues to their normal condition an keeping them healthy. This is called 'Paschathkarma'.

As there was no nevessity to satisfy the Government or any publio institution and as the Ayurvedic physicians were not accastomed or inclined to the adoption of modern methods, 99 per cent of them are not in the habit of keeping register of patients. So we are not in a position to sapport the general effioacy of our treatment with facts and figures But the general publid seem to be satisfied and approash more and more our system for relief. From the rough notes that I have kept of the cases treated by me, I can any that 95 per cent of the results was satisfactory.
(c) The Ayurvedic system of treatment is found to be more effocioious in the diseases that - can be oured by modication only without the help of sargery, in diseases of the nervous system, such as Insanity, Hystoria, Epilepsy, Paralysis, ete., thin any other system. I have my own practical expariense of four cases of tetanus, three of which were tiken oup for treatment by the Allopatio doctors and one, whioh was an attack after delivery, was treated by me according to the Ayurvedic system. The last case had a good resalt, while ths three others succumbed to the -disease. - In the time of the prevalence of influenza I' kept a special register of influenza patients. The oases with pneamonia were disgnosed as 'Kaphavathadhika Sannipatha Jwaram ' ; the cases with affeoted liver were diagnosed as 'Pitthadhika Sannipatha Jwaram", and the other variety as 'Vathadhika Sannipatha Jwaram', and treated acoordingly. I found the result very satisfaotory.

> Q.-3. (a) No.
(b) I don't consider.

In the matter of medical relief the existing institutions are deficient because (1) they have no proper equipments for the admission of in-patients, (2) there is the difficulty of obtaining genuine drags, (3) sufficient laboratories are wanted.

In the matter of medical education, the existing arrangements are deficient because (1) there are no colleges well equipped, (2) expert physicians oannot be had as teachers owing to want of attractive remuneration, (3) there are no hospitals, laboratories, botanical gardens, eto., attached to the existing institutions, (4) there is not State recognition or prospects to attract students.
(c) There is no sufficient provision at present. The insufficiency can be remedied by (1) the Government establishing and managing directly ideal institutions for training (2) rendering peouniary and other help to the private institutions.
Q. 4. (a) I consider that the three items are essential. No existing institation in this Presidency has attained completely the said ideals. I think that the ideal may be gradually attained if there is sufficient encourage nent and help from the Government. *
(b) The ideal to be ultimately achieved should be to prodnee a number of oompetent physioians and afford them facilities for the practioe of Ayprveda. This can be attained by-
(1) reoognizing selected competent men from among the existing practitioners and granting them certificates ;
(2) establishing a model college managed direotly by the Government;
(2) the putlication of a suitable currioulum of study;
(4) arranging to hold a medical examination for whioh private candidate also ahould be admitted ; and
(5) eatablishing a medical faotory under the direet control and coperviaion of the Government.

For the above purposes a Medical Board should be formed and an Indigenous Medical Department, independent of the existing Medical Department, ahould be ereated.
Q. 5. I don't agree with the view.
Q. 6. Modern acientific methoda have nothing to do with the atudy and practice of the indigenons system. Owing to negligence for a long time the $A$ yurvedio surgery standa in need of revival and for this parpose a knowledge of modern surgery with an elementary knowledge of modern anatomy and pysiology may be helpful. So these two subjecta may be inoluded in the curriculam of study.
(a) \& (b) It would be better to leave the settlement of the course of study and the different standards to the Medical Board of Indigenous Bystem.
(c) The medium of instruction for Aynrveda shonld be Sanskrit. But at preaent ingtruction may be given in the vernaculare-Tamil, Telugu or Malayalam. The examination should be conducted by competent men who have a good knowledge of Banskrit and thr partioular vernacnlar. Preference should be given, in all respects, to students who have a fair knowledge of Banskrit.
Q. 7. Medical registration should be extended to the Indigenous system also.
(a) The local District Boards should be asked to supply a list of competent phrsicians of their locality with their qualifications. The members of the Medical Board should be seleoted from those physicians by the Minister in charge directly. This Board shall perform the funotions of the Registration Board also.
(b) The existing legislation should be so modified as to suit the oonditions of the Indigenous system. But I don't think that much addition is necessary to it.
Q. 8. The Indigenons system is cheaper for the following reasons :-
(1) The drags can be had locally and need not mach transit oharges.
(2) The preparation of most of the medicines is easy and requires little cost.

On acconnt of non-recognition of their merit the Ayurvedic physicians are not able to get sufficient remuneration in the form of fees. Hence they are compelled to take a good amount of gain from the sale of medicines and have become like merchants. This leads some to think that the Indigenous system is not cheaper.
Q. 9. The causes are-
(1) Non-recognition by the Government.
(2) Difficalty of obtaining genuine original manuscripts.
(3) Scaroity of translations in the vernaoulars and the decay of Sanskrit study.
(4) Want of good commentaries on the ancient works to suit modern mentality.
(5) The difficulty in obtaining genuine drags.
(6) Want of hospitals to help the practice of the 'Panchakarma' already mentioned in (2) (b).

The removal of these defecte and the introduction of the said changes will certainly bring about a revival.
Q. 10. (a) The Government should recognize the system, should grant certificates and licences, should admit competent men to the medical register, should eatablish a central model College of Ayurveda with a laboratory, hospital and botanical garden attached to it, and should grant pecuniary help to private institations.
(b) The Local Boards and Mnnicipalities should start and maintain dispensaries under the supervision of competent paid physicians and distribute medicines free among the poor people.
(c) The Universities should prescribe curricolum, hold examinations, and confer titlen and degrees on competent physicians.
(d) Private agencies (individuals and associations) should start free charitable dispensarie onder the supervision of competent paid physicians and maintain them with public donations and Government help.

## M.R.Rr. AYURVEDA BHUSHANA PANDIT C. V. SUBRAMANIA <br> SASTRI Avargal, aibac.

Q. 1. I propose to deal with the Ayorvedic system of medicine.
Q. 2. (a) According to the Hindu Medical Science the body is made op of the five elementsFire, Air, Earth, Water and Ether. From the earth are made the seven Dhathog-Chyle, Blood, Flesh, Fat, Bone, Marrow and Sperm. These seven Dhathas constitote the different parts of the body. The seven Dhathas are born of Prithivi and it is in these and on these that the other fonr elements are acting. The dhathus are not capable of exerting themselves or safegoarding themselves. They. are inert by themselves. But they act with the help of the tridoshas which are the powerful or vital elements of the body. The bones fat, flesh, etc., cannot act by themselves withoot extraneous help. The four elements (i.e., other than prithivi) make up the tridoshas. These are called doshas becanse they act upon duahyas or dhathus. The three doshas are vata, pitta and sleshma. Vata has the characteristics of air. It is
light. It is pre-eminently conneoted with movement, pain and sensation. It regalates the work of the different organs, causes shivering and so on. Pitta has the charsoteristics of fire. It . creates energy in the body, carries on digestion. Sleshma is concerned with hardness, itching sensations, lubrications of joints and bones, swelling and preventing the entrance of foreign bodies into the body. It is white in colour. In a well-balanced or normal body the Dhathus and dushyas work in concert. They act and reaot upon each other. There is an equilibritum maintained between them. The tridoshas so act as to make the different doshas funotion well.

Diseases are caused by the disturbance in the equilibrium maintained between the dushyas and doshas. The three vary in different persons. In some pitta may predominate, in others slesma. We accordingly recognize vatha sarira, pitta sarira and so on. The dushyas are sabordinate to and acted upon by the doshas. The doshas are capable of doing mischiof. Working in concert they carry on the work of the body but disturbed they are the cause of disease.

The existence of germs was known to sushruta, who speaks of round, red, krimis, invisible to the naked eye. They are said to cause tuberculosis, eraptive fevers and so on.

In 'nidana', it is stated that certain diseases are communicated by touch, air, dining. together, lying on the same bed, wearing the clothes of othera, eto;, leprosy, dysentery, tuberculosis, falling of hair, etc.

Vagabhata also_speaks of disease kriris. He states that into open and anprotected wounds, krimis are introduced by insects.

If we remember that vata is connected with sensation, movement, regulation of the work of the organs, there is little doubt that vata is of the nature of nervous impnlses. That the nervous. impulses are of parar ount importance need not be stated. The diseases due to deranged vata are the same as those due to deranged nerves.

Pitta has the characteristics of fire and it corresponds to the oxidational prooess. Modern science tells os that the work of the body is carried on by the oxidation of tissues. The oxidation in the tissues is the source of heat and energy. The different kinds of work carried on in the body draw their energy from this process. According to our theory, pitta creates energy in the body, carries digestion, etc. If the oxidational mechanism be deranged, diseases do result and these diseases are the same as those of deranged pitta.

The functions of sleshme are lubrication of joints, preventation of the entry of foreign bodies, etc. They are evidently the same as those of lymph. Deranged lymph or deranged sleshma canses many diseases.

Thus we see that the three elements have corresponding names in the modern soience also. As a working hypothesis, our theory is quite sound. It is seldom possible to pronounce a verdiot on a theory like this once for all. There is much to be investigated and brought to light. Modern Physiology is yet quite in the dark about various things. What about the theory of harmones? Is it not something like the theory of humours? Many problems in Biology are not yet-understood. What about the theory of pangenesis of Darwin, or oontinuity of germplasm wiseman or the inheritance of acquired oharacters and determination of sex? Has the final word been said about these? Sometimes the theories put forward by eminent scientists appear fantastio. But it is not in keeping with scientifio spirit to declare a theory to be false or impossible before sufficient investigation has been made. For long years the soientists have laughed at the idea of manufacturing gold. But recently a German Scientist actually. manufactured gold. In the oritism of adverse opinions in matters of science we forget that there is yet much to be learnt, that the progress of science till now has been like gathering pebbles on. the seashore of knowledge and that there yet lies the sea beyond. Bio-chemistry, as I have said elsewhere, is still in its infancy. The British Pharmacopocia according to a certain writer requires thorough overhauling. Thousands of lives are being saved by the indigenous systems of medicine. The teat of a good theory lies in its practical application; and as a working hypothesis as already stated our theories are quite sound. The theories of Allopathic system might be sound as theories, but they do not always show the expected resalt when applied. Referring to the Ayurvedio system Dr. Clarke of Amerioa has stated that if all the Allopathic Doctors gave up their theories: and took to the tenets of Charaka, the chronic diseases and mortality in this world would be considerably reduced. Such a system is denounced as empirical. But in a sense all medical science is such. It is based on experience and our theories have been formulated through long ages of experience of the treatment of the diseass of man. The Allopathic system is of but recent origin and many of its conclusions are based on experiments tried upon other animals.

The principles of diagnosis are very elaborately and scientifically described in the "Madhavanidana". The methods may be briefly stated to be of five kinds, viz., diagnosis by (1) etiological means, i.e., proceeding to know the disease by finding out the canse, (2) pururarupa, i.e., * premonitory symptoms, (3) symptomologioal, (4) experimental treatmont and (5) noticing the full development of the disease and deranged organs.

Nidana.-We know what disease will result from a certain aotion, e,g., a man who eats earth, it is stated, will get 'panduroda'. We know the cause of the disease condition in this person and we proceed to diagnose the disease from the canse. The oanses of diseases are of varions kinds-the disturbanoe of equilibriom or the loss of harmony between doshas cwing to season variations, immoderate diet, etc.

Pwroarup.-Hero we proceed by knowing the premonitory aymptome, e.p., win the onee of fever. For vatajwara, jawning is oharacteristio. Before pittajwara lom of tacts is an initiol stage.

Rupam - lf the premonitory aymptoms are well developed we easily find ont the dimene.
Upasaya.-This is experimental treatment. We proceed to nse drugs which will moothe disease and the causes as well. We also use drags which under ordinary cimumstanoes have an effect similar to that of the disease. For example, in vomiting we uee fruit of Raddia dumerotum, thus atimalating the disease to expulsion or snake poison in fevers. Probably the principlo in similar to that of toxim and anti-toxim theory of the Allopathio syatem.

In Samprapthi we note the fully-developed aymptoms and disoover what organs are deranged.

We are also guided in the examination of the patient by (1) darsana (aight), (2) sparme (tonch) and (3) prasna (questioning).

Darsana as in oongh, noticing respiratory movements, colour of the elin, feces, urine, eto.
Sparsa as in fever, tumorous enlargement of liver and spleen.
Prasna-Questioning about taste, conditions of bowels, etc. After diagonising the diseane we proceed to consider the following features concerning the patient before we actually begin the treatment :-
(1) The conditions of the dushyas (organs) and doshas.
(2) The country in which the patient resides.
(3) The general tone of health.
(4) Time and season of the disease.
(5) Digestion of the patient.
(6) Constitution of the patient.
(7) The age of the patient.
(8) Virility and vitality.
(9) Constitutional likes and dislikes.
(10) The food he usually likes.

We also consider whether the disease is due to deranged doshas or brought abont by extraneous catuses like shock, falling, mental worry, etc. If, for example, the case is one of fover, we consider whether it is due to fermentation or patrifioation in the digeative system. In suoh a case, we give rest to the digestive organs by judioions fasting. The kashayams for oansing appetite are given. If there is excess of kapham, emotics are given. In serious fevers wo ase oxternal cooling oils, application of ice, eto. Thronghout we take oare that some nourishing or tonio medicine is given.

Oor treatment is often denounced as empirical. Even the late ex-President of Lukia has stated that all gystems are to a certain extent empirical. Is the free use of drags like arsenio, quinine, asperin (osed by Allopathic Dootors) in fevers natural P Our treatment is quite natural. In anti-intoxication we resort to fasting. In tuberculosis we resort to goat's milk, pure air, nourishing diet, rest, cheerfulness of the patient with tonic of Aswagandha and Vasa, etc. In anæmia we give iron tonic. In fevers we often give steam baths. In dropsy a salt-free diet is adopted. This feature as is well known has been borrowed even by the Allopathic aystem and yet our system is condemned as empirical.

Our treatment in phthisis, bowel complaints is very nataral. The use of enema is known to us. Gargles, blisters, etc., are commonly used with considerable success.

As regards surgery the work done by our ancients is wonderful. They were familiar with amputations, lithotomy, etc. Sushrata and Vagabhata have devoted several pages to aurgioal treatment. Instruments corresponding to Allinghams Speoulom, etc., have been desoribed in these works.

As to the general efficacy experience tells me that it is quite successful. Minor ailmenta like digestive troubles, etc. are invariably cured. Fevers are very successfolly treated. In dropsy, anmmia and taberonlosis also the treatment as shown above is exoellent.

After all, in medicine the efficaoy of the aystem is to be judged not by absolute standards or by theoretical standards but by clinioal efforts. We have also to consider how the people take to it. I have elsewhere cited the instance of the Ayurvedic Hospital at Tirapati growing to be very popular in a very ahort time. The average monthly attendance in our hoapital is over 3,000 whereas in the local Manieipal Hospital which has been existing for over 20 years is only 1,000 .
(c) As an answer to this question I quote Dr. John Lindley: "And they (i.e., European practitioners) find the medicines which are powerful in Europe comparatively inactive in other climates. The heat of a country, its humidity, particular localities, food and the social habits of a people will predispose them to varieties of diseases for which the drags of Enrope offer no sufficient remedy and will render that which is relied opon in one country unworthy of dependence in another. Thus the cinchona bark of Pera important as it is in Earope is, we are told, rejected by the people among whom it grows, becanse it is found too stimulating and heating for their excitable conditions.

Exotio drugs.are not only costly but often so mach adulterated as to be unfit for use."
Again, "It by no means follows that plants are inert because medical men have reported manavourably of their action. The most powerful species have had their energy destroyed by *unskilfal preparations or by not knowing at which season to colleet them.

The very nature of tropical countries generally causes the properties of plants to be more ooncentrated and completely elaborated than in northern latitude."

The above extracts olearly show that the virtue of drugs varies with different countries. It has been said that one man's meat is another man's poison. It may, on the other hand, be aptly said that one man's medicine is another man's poison. For the same drugs may have quite the .opposite effects on two individuals, especially if they differ in birth and constitution, etc.
Q. 3. (a) Yes. I am now the Senior Pandit and Physician in charge of the Sri Venkateswara Ayorvedic Dispensary and Patasala, Tirupati. This institation was only a year back agtarted by the Sri Mahant of Tirupati. It affords medical relief primarily to the nomerous "pilgrims that ever stream into Tirapati from all parts of India.

Prior to coming to Tirupati, I was Physician and Professor in the Sri Kaniyaka Parameswari Devasthanam Hospital, Madras, which is the first one of its kind in the Madras Presidency. Having been one of the first to take the Vidwat Diploma in the Madras Presidenoy, I served in the said Bri Kaniyaka Parameswari Devasthanam Hospital for about fourteen years. After Pandit D. Gopalacharlu of Madras ceased his connexion with the institation I was the Senior Physioian there. . Due to my efforts the institution was able to receive a contribation of Rs. 500 per annum from the Corporation. During my tenure Dr. Bryson, Yamini, Bushana Roy, Gananath Sen and other eminent physicians visited the institation and spoke highly of it.

To a great extent the medical help provided by several of the indigenous institations is adequate. When I was in the Sri Kaniyaka Parameswari Devasthanam Hospital numerous patients 60 to 70 thousands a year flocked to it and got relief. Several cases of malaria which found no relief in the Allopathic dispensaries were successfully treated by me.

The present institution, Sri Venkateswara Ayprvedic Dispensary, though young, has become popular here. There is also an Allopathic haspital here maintained by the municipality for over 20 years. Statistics clearly show that since the opening of the Aypurvedic dispensary the number of patients in the Municipal hospital has been gradually going down whereas the number of patients resorting to the Ayurvedic dispensary has been steadily increasing.

The municipal authorities themselves have expressed the view that the oause of decline in the number of patients in the Allopathic hospital is no other than the popularity of the Ayurvedic dispensary, whioh by offering adequate medical relief has been, though young, growing to be very popular. Ald sorts of cases are treated here though surgical cases are not undertaken tit present. The Diapensary is regularly open both in the morning and evening.

As a centre of medical instraction also, this institution is in the first year of its life. We have eight students on rolls who are being trained for the Ayurvedic Bhushana and Bhishagwara Examination. There is a pretty good library and no pains are spared to improve it. The classes are conducted by qualified men. Biology, Anatomy, Physics, Chemistry, Physiology and Hygeine or part of the syllabus and the necessary apparatus for some of them as well as anatomical models and charts are easily available to them. An Ayurvedic garden and museum have just been opened. The students are taken out occasionally on excursions to identify and -oolleot medical plants.

The generosity of Sri Vicharanakarthala Vara is expected to provide us soon with in-patients and, lying-in wards, surgioal departments, etc. It is hoped to make this soon an adequately -fficient centre of medical instraction.

At present there is not adequate provision for medical relief and instruction all over the Presidenoy. With the exoeption of few places there are no public dispensaries in the different parts of the Presidenoy. Of course dispensaries are being newly established in many places and they are in oharge of qualified physicians. This is due to laek of State support.

In manicipal towns and big cities I would suggest the starting of an indigenova nedical department parallel to that of the Allopathic system. Such a parallel system will reveal to us many points of interest and all the institations should be in the hands of qualified physicians.

As for the small villages one or two persons may be appointed to look after the health of their inhabitants and the sanitary condition of the places. They should maintain a regular register of the oases of siokness treated by them and note their observations on the general health of the locality. They should work nuder the sapervision and gaidance of the officers in the nearest A yarvedic dispensary or hospital. In the first instance the village physicians need not be whole-timed servants.

As for medioal instruotion, the present Ayurvedic College of Madras should be saken over by the Government and worked on the lines of Government Medical College. It should have affiliated to it a number of medical sohools, distriboted all over the Presidency, and should be finanoed by the Government. To begin with, there may, be one school in every three districte.

The professors of the Medioal Colege and auch other persons as are interested in the progress of the indigenous system of medicine should form a board to saperintend, gaide and decide :apon the conditions of the affiliation of the several medical schools.

The most important thing is that the Government and the local boands must onter hoart: and sonl into the businces. At present the few centres of medioal inatruction and aid owe their existence to the generosity and broad mindedneas and oympathy of private individuala. TheGovernment spend all their money on the Allopathic system Which is really an indirect method of discouraging the indigenous one. At least as an experimental meacure, a parallel Ayurredio institation mast be ran for a period of not lees than seren yeare in order to be convinced of the importance and usefulness of the Ayorvedic ayntem of medicine.
Q. 4. (i) (a) Yes. It is necessary that the idenl medical training should bave teechers of first rate ability and recognized standing in their subjects.
(b). Yes.
(c). Yes. These are all necessary for the advancement of any subject and more no for the study for the indigenous system of medicine. There is ample coope for resenroh. There ie ample field for research. The harvest is plenty, but the reapers are few. Teachers of first rate ability are easential, for it is only they that can impart to their papils the instruction of the ripht sort and also create in them an ardent love and enthosiasm for the subject. An the proper fild of obeervation and application of what is being theoretically learnt in the lecture room, hompitals are necessary accessories. Herein can the teachers and the taught verify and obeerve alike the action of the several drugs, the nature of varions disesses, eto. Besides, museums form necesany complements to medical institutions. These should contain a collection of anatomioal modele and charts, a complete collection of all available drugs and also a herbarinm collection of all medical plants. I would also consider as essential a garden where several medical plante and herbe are grown; such gardens, besides their value for parpoees of identification, will also ensure the purity and freshness of the drage used. It is to be always borne in mind that many of the herbe oold in the market might be adulterated.

Also for independent investigation this is very essential. There are several druge described in our Sastras which are not now identified. So alao many are the plante nqt correctly identified and fewer still are the plants whose physiological action has been investigated. Bio-chemiotry is in its infancy and practically in no case has the knowledge of Bio-chemistry been utilized to find ont the merits of the indigenons system of medicine.
(ii) This ideal bas not been attained in any institution bnt it is attainable.
Q. 5. We on our part are willing to extend our knowledge to verify our theories, to come inte closer contact with modern methods. But I do not see the possibility of a unified system of medicine in the near future. For years to come the distinction will exist. The Allopathio Doctors are not yet ready to acknowledge the good features of our ayetem. Hence the Allopathio system has to revise some of its theories, shake off its self-conceitedness before we can bave the prospect of a nnified aystem.
Q. 6. Yes. The carriculam should inclode a study of modern acientific aubjecte as Physion, chemistry, biology, anatomy, physiology and bacteriology.

As for pathology and surgery, the basis of study should be mainly on indigenous linee. Wherever necessary this may be considerably supplemented by the study of these anbjects on western lines.

The course should be as follows :-
(1). Bishagwara ${ }^{(2) .}$ A $\quad . . \quad$... three years' course.
(2). Ayorveds Bhoshans ... ...
(3). Ayorveda Mukhopadhyaya or Biromani. This title should be conferred for meritorious and original work in the form of a thesis.
(4). For entrance into the Bishagwara clasa a good knowledge of vernacular aud a faiz knowledge of English ( $V$ form standard) is essential. For Asurvedic Bhushana a good know ledge of Sanskrit and as much general proficiency as is possessed by a Secondary Echool leaving Certificate candidate may be considered necessary.

## The medium of instruction should certainly be the vernacular of the district.

Q. 7. In my opinion the medical registration should be extended to the indigenous syatem of medicine with a view to encouraging the system. In the first instance, a committee should be appointed to select persons of standing from among the practitioners of the indigenous systeme of medicine. But after a few years only those that are qualified by virtue of their diploms or degrees should be admitted into the medical register. The registered practitioners of the indigenous systems should be placed on an equal footing with those of the Allopathic system an regards privileges.
Q. 8. The cost of treatment according to the Ayurvedic system is certainly cheaper than that of the Allopathic syatem. I have seventeen Years' experience as a physician in Ayurvedio Hospital and the statistics prove clearly the truth of my statement. The cost of treatment pos patient according to the Allopathic system is 6 to 7 annas, whereas according $t$, the Ayorvedio systern the cost per patient is 10 to 12 pies. This enormous and striking difference is due to the fact that all our drags are cheap and easily procured, whereas the drugs employed by the Allopathic Doctors have to be imported all the way from Germany or England at a considerable cost (the gencine nature of these drags is not guaranteed), though it is admitted that India is quite resourcefol as regards droga. Further, the machinery necessary for working the Allopathiosastem is very costly. Speaking about the comparative cost of drugs, I may mention the instance-
of Toddalia aonleata, which is in no way inferior to quinine bat in certain respects even saperior to quinine. Toddalia aculeata costs only two annas per lb. and is within the easy reach of every patient.

It was stated by the late Sir P. Lukis, that 99 per cent of the Indian population are dependent on the indigenons system of medicine. This alone proves the necessity of bestowing greater attention of the indigenous systems. To the villager, the Allopathic system is neither useful nor accessible. The villager cannot afford to go in for the costly patent medioine or tinctares of the Allopathic system. Undonbtedly, the Ayturedic system is cheaper and more efficacious.
Q. 9. The causes of decay of the indigenous system of medicine are several. They are the same as have brought about the decline of the study of Sanskrit and Vernaculars. The study of Ayorveda has no place at all at the seats of learning to-day. The best intellects of the country take to law and other subjects. No one devotes himself to a real and proper study of Ayurveda. The State gives no aid whatever to the indigenous system. In days of yore we had men of genius and keen intellect devoting their lives to the investigation of the Ayurvedio Scienoe and the State always came forward to finance such enterprises, but there is no such thing at present. The contact with the West seems to have temporarily sent the people to sleep, but the shook oould not be permanent in its effect. The scientific knowledge of the Hindus is the object of admiration at present. - It was a German scientist, who declared that he owned his inspiration in Chemistry to India. Doctor 'P. C. Ray oonsiders that many of the metallargical processes desoribed by the sncient Hindus can be transferred straight away into a modern text book on Chemistry.

The decline of our system of medicine has been due to the withholding of all encouragement by the State and the necessary exclusion of the subject from the seats of learning. As for its revival, it has already begun. What is wanted at this stage is encouragement by the State so that the best intellects of the country versed in scientific lore, both ancient and modern, may be indaced to devote themselves to the pursuit of the indigenous systems of medicine. Hospitals, dispensaries, etc., should be opened. The people; of course, are responsive. In mufassal places where Ayorvedic dispensaries and physioians exist they are appreciated more than the Allopathio dispensaries are.
Q. 10. (a) I wonder why this question should be raised at all ? What is there that the State cannot do to promote the indigenons systems of medicine? First it has to stop all positive disoouragement which it has been giving hitherto. Next, it has to decide upon earnestly enoouraging the indigenous systems by opening oolleges, dispensaries, hospitals, etc.-

In the days of Asoka, doctors from Hindustan were sent to the different parts of the world, -aven to distant Siberia. Even the rulers of Bagdad appointed Ayurvedio physicians at their courts. The British Government have shown no inclination to sueh aid.

Indigenous systems an be fostered not by the appointment of Committee or by the appointment of prejadiced Allopathic doctors possessing no knowledge of indigenons system of medioine, to investigate into their comparative merits. A person who stated plainly that he possesses no knowledge of the indigenons systems of medicine is appointed to report on their comparative merits. For finding out the comparative merits of the indigenous and Allopathio systems, people who have experienoe of both should be appointed. The best way for the State to foster the indigenous systems of medicine, is to run a parallel indigenons medical department at least as an experimental measure, for a period not less than seven years.
(b) The local boards can promote the indigenons systems of medioine by giving to them the same encouragement as is being given by these boards to the Allopathic system.
(c) I have already stated that one of the causes of the decline of the indigenous systems of medicine is that it is to be found no longer at the seats of learning. The university should be cosmopolitan and should include all branches of learning, ancient and modern. The university can institute degrees and displomas It can also arrange for lectures on the indigenons systems of medicine. Certainly these lectures will be more interesting and useful than the lectures on absolutely dry Gothic. The university, as a rule, attracts the best intelleots of the country. If the university should offer courses in the indigenous systems of medioine, the study of these sabjects will receive a great stimulus and considerable advancement will be seen. The university oan also have schools and colleges affiliated. It oan offer Research soholarships.
(d) The private agencies are certainly doing what they can. The zamindars and other rich persons do have their own Ayarvedio physicians. But it is difficult for the private agencies to render as muoh aid as the State. They can only co-operate with the State in fostering the indigenons systems of medioine. They can offer scholarships, studentships, donations for medioal publications, etc.

## HAKIM sAIYID ABDULLA HUSSAIN SAHIB BAHADUR, HAKIM MOULVI 8AIYID SHAH ABU MUHAMMAD MAHAZARULLAH SAHIB MADANI baHadur and haji hakim gaifid magdoom ashraf salib BAHADUR.

Report of the Committee convened under the direction of the President of the Eastern Medical Association of Southern India, Madras, to carefully consider and neport on the several pointe raised in the "Quectionnaire" prepared by the Commillice on Indigenous Systems of Medicine, Madras.
This Committee, consisting of
President.
Moulvi Hakim Saiyid Sahib Abdullah Hussain Sahib Razavi-ul-Khaderi.


#### Abstract

Members. Hakim Ghnlam Mohi-ud-din Sahib Faroqi, Haji Hakim Saiyid Magdoom Ashrat Sahib, Moulvi Hakim Baiyid Shah Abu Muhammad Mazharullah Sahib Madani, Monlvi Hakim Abal Qair Abdnl Khader Ahmed Sahib, met at the Unani Medical College Buildings, Triplicane, Madras, on the 80th January 1928, to consider the preliminary issues raised in the "Questionnaire" and subsequently on three different oceasions to discoss matters more fully and in details. The report was eventanlly concluded doring the Committee's sitting held on the 2 1st of April 1922. Owing to the month of Ramenn intervening, the drafting of the report and its eventual submission had been a bit delayed, which is regretted. Subjoined is the joint-report of this Committee on the several questions raised in the "Qnestionnaire" and answered serintim.


Q. 1. The "Aurvedic" and the "Unani" syatems of medicine are anquestionably and beyond a shadow of doubt more useful for this country than the so-called "Allopsthic "or the "Western" principles of medical treatment, as they are operated on Indiang by Indians through the media of Indian productions of herbs and drugs, on the efficacy of which elimatio influences have not a little to partake of. As we adhere to the practice of "Unani" medicine in main, we endeavour here to confine our comments on, and ventare to express our ideas mainly about, that. very syatem alone.
Q. 2. The common canse of "disease" is attribnted in the main to a breach of the lawe of hygiene ; and, any and all such causes are known in Eastern teachnicology as "Asbab-a-Baudia". or "External canses." To express the above definition in detail it means that all physicians of repute, whatever system of medicine they may have followed, have after a long practioal experience of many years, based the whole system of medical treatment on three fundmental principles, viz.-
(1) formulating a theory about certain disease or diseases,
(2) putting that theory into actual practioe, and
(3) noting the results thereby obtained.

After many years of strennouns efforts in the praotioe of suoh a procedure, they arrived at certain facts-eventually accepting the idea that the health of every living being depende more or lees . on the harmonions action, on the basis of moderation, of the "Six Essentials of Life" (Asbab-aSiththah) as detailed below :-
(1) Air (Hanjath-a-thorveih),
(2) Food ànd drink (Makool-o-mashroob),
(3) Sleep and wakefulness (Noom-o-yeghza),
(4) Motion and rest (Harakkath-0-sikoon),
(5) Retention and ejection, (Ehthibas-o-isthifraq), and
(6) Natural shades (Auraz-a-Nafsani).

According to the above thesis, the eminent ancient practitioners of the Unani Medical Science have laid down certain laws of health, based on intrinsic principles-paying of course due regard to locality, season, eto., of the ailing element.

When a man breaks these or any of these fundamental principles of the Medical Law, the result must of necessity be inevitable-either a change in the temperament of the human organs or the humours of the body themselves undergo, as a matter of necessity, a devolutional change. On account of this perverse condition of action, the organ or organs affected fall short of performing, or fail entirely to perform, the routine of its or their natural function or functions and thns render, itself or themselves easily accessible to the propagation of disorders technically" termed "disease." Then comes in the "disease" itself.

Asbrib-a-Baudia.-In the "Asbab-a-Baudia" or the "External canses of disease", are included all those causes which, having acted on air; food, water, otc., lead to a change in the above-mentioned items; for instance, temporary changes in seagons, patrification of animal or vegetable matter, excretion of patients snffering from contagious diseases, external injurien, lightning, thunder, poisons, stings and bites of poisonous insecte, and other contagious diseases.

When the organs or the hamours of the body undergo any change owing to external causes, sach ohanges are termed "Asbab-a-Badani", i,e., "Corporead canses." These "Asbab-aBadani " have further been divided into-
(1) "Sabab-a-Sabeq " or " predisposing cause," and
(2) "Sabab-a-Wasil" or " exciting caase."

The first or the-predisposing cause is one which acts as a connective between the canse and the disease. When this canse comes in contact with a human body, the organ or the organs of that body are so far debilitated as to be readily accessible to disease. The second or the exciting cause is one which does not constitute a conneotive link between the cause and the disease but produces the disease itself.

Some of our physicians have included "Age," "Sex," "Temperament," and "Inheritive tendencies" among the canses leading to disease. This is termed "Internal" cause."

Diagnosis.-Diseases nuder the Unani system of medicine are diagnosed from aigns and symptoms obtainable on inquiry from the patients as well as by actual examination of the patients themselves. The routine that a Hakim follows in examining a patient from the beginning to the end is as follows :-

After ascertaining the age, occupation and the sarroundings of the patient, a Hakim proceeds to hear as far as possible the complaint of the patient from the patient himself, then the duration of the complaint is enquired into, and finally he proceeds to examine the general condition of the patient, noting down any deviation from the ordinary standard of health that he may find during such examination. If the Hakim suspects the disease to be hereditary or contagions, he takes a note of the family history of the patient concerning the disease. In oertain cases the previous illness of the patient is also taken into consideration. After all this is over, the Hakim begins the physical examination of the patient. If the patient under examination soffers from any gastric or intestinal trouble, his saliva, teeth, tongue, vomit, motion, etc., are generally examined. If there is any urinary trouble, the examination of the orine receives special attention. If there is any respiratory trouble, "nose ", "throat ", "langs" and "sputum" are examined. Accordingly, in the diseases of the circulatory system and varione other diseases the pulse is invariably consulted, which helps materially in the diagnosis of the disease. Apart from all these, great help in the diagnosis of the disease is also obtained from-
(1) the variations in the four homours of the body,
(2) the changes in the functions of the different organs,
(3) the general signs and symptoms of the disease,
(4) the special signs and symptoms of the disease,
(5) the diagnostic signs and symptoms of the disease,
(6) the local diseases and their signs and symptoms,
(7) the hereditary factors, and
(8) excessive joy or sorrow.

All the essential information concerning the alleged disease having thos been obtained, a differential diagnosis is then proceeded with and the particular disease is diagnosed by the weight of the signs and symptoms, the result of the examination of the patient favouring it.

Principles of treatment.-In general, treatment under the Unani system of medicine is divided into-
(1) "गlaj-a-Athayana" or the "Imperical treatment," and
(2) "Ilaj-a-Muhaggighana " or the " Rational treatment."

The first or the unmethodical (Imperical) treatment is one in whioh a medioine is administered in a certain disease and the disease is oured, bat the way in which the medicine aoted is not known. In the second, or the methodical (Rational) variety of treatment, the properties of the medicine and the action thereof towards the eradication of the disease are previonsly known to the prescriber. It is therefore used with certainty of effect.

There are four modes of treatment, namely-
(1) treatment by medicine,
(2) treatment by food and drink and the inflaence of air on the patient,
(3) treatment by external applications, (Tlaj-bith-thadbir), and
(4) treatment by the use of instruments, i.e., by surgical operations.

Under certain circumstances and unless scientifio research dischoses the canse and effect at work in bringing the disorder to bear on a human body, it is beyond human knowledge to treat oertain cases of disorders, unpreseribed for by ancient physicians of repate; and, in such cases, it is possible only to alleviate the more obvious symptoms or signs of the disease; this treatment is termed "symptomatic," while in certain other cases "Tlaj-bith-thaqfeef" or "Palliative" treatment is resorted to.
"That the removal of the oanse leads to the removal of the disease" is a general prinoiple which a Hakim should always have in view in the treatment of his patients. No doubt, the ordinary eauses will bring in either "simple derangement" (i.e., Suai mizaj-a-sazij) or "material derangement" (i.e., Suai mizaj-a-Ma'addi) of the system. In the first instance the Hakim should resort to measures which would, in his opinion, bring in a moderation (tha'deel) of the
divordered organ or organs of the constitution. In the eecond, be ahould try to remove the canse either directly by extradition (thanqiyya) or by adopting auxiliary menna wharewith to strengthen the hamoors of the patient'e constitation. In either case, however, it in neoemary to treat the disease with a medicine having the force of the "Opponite qualification": that in to say, a disease created by exoesaive warmth should be treated with medicines hoving a cooler offect and vice veras, and this is termed "Converse treatment" (Ilaj-bia-Ziddihi). Soma diseaseas are exceptionally treated with "specific medicines" with littlo or no regnand to the above general rule; but one should not lose sight of the fact that its aftereffecte are likely to produoe injurions or dangerous results in the system according to the properties of the ingredients used in the specific medicine administered in such cases. Aconnting to the principlea of treatment, once the canses of the disease are diagnosed, the duty of the physician would be to cantionaly prescribe such medicines as would, in his experienoe or from his personal observation, have helped to eradicate the cause of the disorder. There are thus two principles agsin to oberve一 firstly, the ohoice of the medicine to be administered; and, secondly, the choice of the dose presoribed. By "Choice of medicine" is meant the aelection of the drug or drugs accoording to the degree or stage of the disease conpled with the degree of the effective force of the drag or drugs prescrited for. By "Choice of dose" is meant the dose that should be presoribed for in different diseases having due regard to the different constitutions of the patients treated. In oases where a disease can, in his opinion, be treated by a singlo drag, the physician should carefully note its dose, its properties and its actions before prescrihing it for a patient, and where more drugs than one are preseribed, he should note very carefully the erlection of the dose of each of the various ingredients the presoription is made up of. Under this anme hrad falls the adoption of the Basis, the Adjurant, the Corrigent and the Exeipient of thr preacription.

If a physician wishes to make use of any of the best tried old presoriptions, he should oautionsly amend it so as to suit the temperaments of the case in which it is to be administered. These (oid) presoriptions could be relied upon in a majority of oases as they have stood the teat of many a century provided the physician is aatisfied as to the merita and demerits thereof in conjunction with the gravity or otherwise of the ailment. The art of prracribing under the Unani system is, we are constrained to assert, based on very valuable and soipntifio principlea, and this snbject would require many more pages of usefal commentation os ite behali; hut, for the parposes of the inquiry on hand, we believe what has already been explained supra is more than sufficient to convince the Committee of the veracity of our assertion.

Modes of introduction of medicine.-Mostly our medicines are administered to the patieute through the moath and these medicines comprise of varions kinds, e.g.-
(a) Arq. (Aqua of various drugg),
(b) Joshanda (Decootion),
(c) Khaisanda (Infusion),
(d) Sharbath (Syrup),
(e) Sikanjabin (Oxymel),
(f) Roghan (Olium),
(g) Laab (Macilage),
(h) Khars (Tablets),
(i) Safoof (Powders),
(j) Hab (Pill),
(k) Majoon (Confection),
(l) Murabba (Conserve),
( $m$ ) Kushtha (Oxide), eto.
When the tongue or the mouth is affected, we apply medicines locally and presoribe garglea, to alleviate the local condition. In the diseases of the gums or the teeth, we use varioua ' Banoon' or tooth powders. In the diseases of the throat, nose and ears, we prescribe apecial medicines for local application. We also use pills, specially prepared for the parpose, to be kept in the month and its juice swallowed in cases where the pharynx or the larynx is affected. In constipation we use enema in addition to the nse of medioines. Notrient enemata are also given by us. Local application is made of medicines in varions parts of the body-even inside the bludder, uteros, urethra, rectum, vagina, eto. We administer medicines through the langa by giving the patients medicines to smell. We introduce medicines by injunction. We treat certain casea by venisection.

General efficacy of medscines.-To afford a proof of the general efficacy of the medioines administered in the Unani system, it is necessary to have a daily record of attendance of patiente, duly entering suoh figures in registers maintained for the porpose, of individuals treated in the varions Unani dispensaries. As most of our Hakims do not follow the enstom of keeping such registera, it is not possible to produce a record of the "numbers treated" with resaltes. It may, however, with confidence be asserted that 90 per cent of the patients treated recover under the Unani syistem of medicine.

Indigenous drugs.-It is one of the laws of nature that wherever we find a disease, in ite very neighbourhood we do find cure for the same disease ; that is to say, for the diseases prevailing in India, we need not go beyond India to procure medicines to efficiently cure the disease, for there is in India itself plenty of medicines to connteract the prevailing diseases.

Hippocrates, one of the greatest of the Unani Hakims, says: "Treat your patients with medioines produced in their (patients) land for best Tesplts." It is on this prinoiple that we treat our patients here. Experience of centuries testifies to the truth of the saying. For the Eastern systems of medicine we have an unlimited number of pseful drugs in experienoe effioscious, available around us. They are more reliable becanse they are well tried, and so the patients have more faith in them. Orr treatment is cheaper and suitable to the existing peoaniary condition of the coantry. Medicines produced in India, apart from being benefioial in effect in the treatment of Indians, save India's money for the benefit of India itself. Our medicines are most useful in chronic diseases, as well.

Poisons.-Unani physicians do not generally use any poisonous sukstances. If under certain circumstances, poisonous drugs are used, their poisonous effects are to a material extent alleviated before use so that even should any mistake oceur, as it usually does, in the administration of wrong medicines or wrong doses of the medicine, the resultant ill-effects of the medioines so used are practically little or none and if at all there is any, it is very slight.

General Remarks.-Even to-day 80 per cent of the patients in India are benefited by the use of the Erstern (Unani) medicines in spite of the fact that this system does not continue to be the State system of medicine. Thongh repeated attempts were made at different periods to root-out our system of medicine, it proved to have possessed a life too hard to admit of the possibility of being extirpated. Unani medioine is liked by almost every Indian as its effects have always been proved to be wholesome and never compisined of as bad in effect. This is exactly why it has kept up its position and prestige up to date.
Q. 3. They are wholly inadequate for there are more patients than physioians to cope with them. Besides, the pecuniary ciroumstances of the physicians do not render them fully capable of affording wholetime service to their patients. It is very essential that free hospitals should be started. A Medical School is working at Triplicane for the last ten years onder the auspices of the "Anjoman-a-Mashriqui-Athibba-a-J onobi Hind, Madras, where ednoation is imparted free of oharge in a satisfactory manner. Notwithstanding, there is yet a gxeat need for amplifioation and advancement. For indigenous treatment and eduoation, materials can easily be obtained. Being the product of our own country, medicines will be avilable at oheaper rates. and Medical textbooks are in abandance, but the only thing to be done now is the translation of new works.

A Unani " Dar-ush-Shifa" Free (Dispensary) has of late been established in conjunation with the Quddusiah Unani Medical College. It is working satisfaotorily under the management of the "Anjoman-a-Mashriqui Athibba-a-Junubi Hind, Madras". It has two qualified physician of its own and, in addition Hakeem Haji Saiyed Magdoom Ashraf and Monlavi Saiyed Abdullah Hassain Sahib attend to the patients for an hour each daily in the mornings and examine and preseribe for patients as well in important cases. As the dispensary is of recent birth it would be premature yet to comment on the quality and the quantity of work turned out.
Q. 4. We agree with this section.
(a) (i) Even in the Unani Medical Schools that are working in Madras, Delhi; Lucknow, Hyderabad, etc., there is a special teacher for every partionlar subject and he is allowed to do his work quite independently:
(ii) Students are admitted to the prescibing room. They are tanght the art of oompounding and writing presoriptions. They derive benefit from the present libraries and ohemical depositories.

## Still there is great room for enhancement.

Q. 5. We do agree with the Resolation passed by the Caloutta University Commission but we disagree with the expression "The difference between the Indian and the Western medicine will disappear ". Though the methods of medicine may differ, still, as the purpose and motive are identical, there exista not much of a difference on minor pointa; for the party advanoing in the plane of research and investigation is bound to invent something new every now and then and his claim shall prevail.
Q. 6. We are in full agreement. In most of the present Unani sohools, the modern advanced sciences are included in. their ourricula but much more is yet to be done to make the courses complete and to gain this object finanoial aid on a sound basis is wanting. For particulars, please see the ourrioulum of the Unani Thibbi College, Madras-vide Appendix A.
Q.7. The necessity of the sort in question was felt by the "Anjuman-a-Mashriqui Athibba-a-Junubi Hind". They have accordingly established a Medical Board and have also started a Medical Register wherein desirons and capable physicians get their names registered. Regarding the extension of the Medical Registration Aot, the Unani Medical Board may be consulted as to the inclusion of the Unani Medioal Register in the Medioal Registration Aot.
Q. 8. The indigenous system of treatment involves mach less expense. At the least computation, a dose of medicine can be had for a pie. Medicines being the produot of our own country, they oan be had at the oheapest possible rate. Every year it is observed that our country growe useful and efficacions medioinal plants and herbs. Of these some are consumed by animals, some are decayed owing to the soorching heat of the sun while others, in comparatively lesser quaptities are removed by pharmaoentioal experta for medicinal purposes. Should all these herbst and plants be preserved and collectively atilized for the treatment of patients, the sore of drage thus available will unquestionably be too great to admit of any dearth in cost.
Q. 9. With the decline of the Muslim rale, Islamic aciences followed auit. Educational institutions were elosed, hospitals demolated, libraries eaten awny by white-anta while the few wodks saved fell into the hande of foreigners. How then could there be any progrese? Eirery physician in pructice deemed it sufficient to put up with the requisite vet. ensily myuirable, problems of medic l knowledge most suitable to his taste, the resalt being thint important minners Dike Sargery, Midwifery, Anatomy, Chemidry, Optics, "to., the laborioun acynisition of a skillnd knowledge of which was berond their menne to attaid. owere loot to us and our coudition wean on far dilapidated as to justify the old naying "Knowledge in hooka and books in the Burrau". But this does not mean that the Unani gystem of medicine is imperfod. Ao far as its own aphere is concerned, it is quite happily "Scientific " thanks to the preservation in errtain quarters of our standard works of eduction and the safe custody of nur scholastic text-books though not in rioh profusion. If there can be any real imperfection it lies not in the nystem itwelf but in ita practi--tioners owing to the imperfect knowledge of their own vocationa $\Delta_{s}$ a matter of faot, "ven thin can in no wise be attribated to them as their fanlt; for, what onn be exproted of them when none in power was left behind to pat on their backs and help them in pushing forward their enterprises. An easy way now of leading them to perfection is to start a few medionl sobools ned hompitnla in Madras and some seleoted districts of the Presidenoy on modern lines. Then it may le possible that they will progreasively cultivate their knowledge to perfection a very short time. There are many treasures yet hidden and when these are syotematically dug out and brought undor practire, happy results are sure to achieve. It is unhappy indeed to note that modern seientists lahour undor the iden of trying ancient aciences on modern priuciples. Althongh ancient medicul sciences also are based on scientific principles in their own line, yet to show them as much in modern times in practice form the business of a doctor of medicine who may be well-verwed in both the old and the new theories. Snch persons are few and the attainment of sucesss in this respect is threfore next to an impossibility. To aohieve better ends it is necessary however that the followers of ancient sciences should be helped and allowed to carry on their reesarches oll steady bases so that they may again be able to brush up their studies and polish up their rusty and ever-forgotten implements and prove themselves worthy of their name and their anoestoral faine Along with this modern scientific acquisitions need also be coupled. In this way they will once aga in attain .to perfecion in their own line and possess at the asme time the capacity to meet modern soiences on ancient principles. They will thas be in a position to draw a distinguishing line between the two scientific coarses and decide which of them is more valuable than the other.
Q. 10. The natare and the extent of the financial aid rendered by the Looal and the Inparial Governments to the Western medioal education and practice should also be extrnded with the same scope and effeot and to the same extent to the indigenons system of medicin" to he administered nader the Unani Medical Board as desoribed under 7 supra.

## (6)

## m.r.Ry. T. R. Ethirajulu nayudu avaraal.

Q. 1. Siddha system. We solely depend on Tamil worka auch as Agasthyas, Theraiyar, cto.
Q. 2. (a) Hereditary, self-acquired, bad living, dietary variations, andden changrs.jn weather, etc.
(b) (1) According to the Tamil works on medicine a physician can asy at the mere sight of a man whether he is a man suffering from bile, vayuva (air) or Silethmum.
(2) Pulse.-Feeling the oorrect pulse reqnires oarefnl training.
(3) Examination of urine and stool.-When one stadies Nirkkuri and Neikkuri works there is no necessity for the use of urinometer.
(4) In doubtfol cases the patient is kept ander personal observation for some time.

Tiews.-Cases in which operation was found necessary by expert medical men of Western training are cared by Tamil medicines radically.
(1) The medicine prodnces the desired effect.
(2) Only if prepared in accordance with rales laid down for the preparation of medioines in Tamil works it produces the desired effeot.
(3) The method of preparation is istrict, systematic and following from Guru to disciple. So strict conformity to the rules of producing the best preparation is observed. If any medicine prepared fails to satisfy the tests employed to asoertain the accuracy of preparation then the whole lot of medicine is thrown into dust bin.

It is this aspect of Tamil physicians more than anything else, that disting oishea sucoseaful physicians of deserving merit from quacks.

We follow the preparations adopted by Gurus in Tamil works because there have been no oolleges of modern trye in which hundreds of stadents ondergo training at the same time. So individual merit and soholarehip has to be recognized and handed down from Gura to shishya.
(c) The printed copy of testimonials herein enclosed will speak well of the miraculous effects of the Tamil medicines prepared by me.

Indigenons system of treatment is the most efficacions, e.g.-
(1) Cases of diabetio carbuncle given up, in General Hospital were cored by my medicines:

One Papatti Ammal, mother of a medical student Govindara ja Pillai, and wife of Stationmaster, Peringipuram, Madras and Southern Mahratta Railway, was admitted in General Hospital
for operation of carbuncle in one of her hands about the month of August 1920. She underwent operations. As the operation was not successful, her hand was amputated and the wound did not heal for more than a month. She was brought to me for treatment. She is now healthy.

Another case of Carbuncle-Ravaikannu Ammal, wife of the record-keever Mr. Govindaraja Mudaliyar, Central Station, was admitted in General Hospital for oarbancle in 1921. After operation, fingers were more swollen. The operation extended from fingers to the wrist. Doctor was for removing the fingers. She was afterwards under my treatment. The finger is still in tact. Besides, two more cases were cured by me (vide report of the speech of Mr. C. P. Ramaswami Ayyar who presided on the occasion of presentation of a Gold Medal to me-Madras Mail, dated 5th Augast 1920 and New India, dated 5th August 1920).

Case of appendicitis and sterility-Chronic syphilitic ulcers, pto., which challenge the best of Western doctors have been completely cured by my medicines.

Tetanus-Septic fevers, etc., treated by expert Western medical men given up as hopeless were treated successfully by me by my Ayurvedic medicine-vide piges 8, 9, 10, 12, 13, 14, 18, 19, 26, 27, 28,49 and 50 in the certificate book herewith enclosed.

Distinguished men who could not easily recognize merit in the Tamil system, have expressed their admiration of the efficacy of my medicines, after personally satisfying themselves by the oures effected in their houses. (Diwan Bahadur V. T. Krishnama Chariyar Avargal, M.R.Ry. Chinnaswami Ayyangar Avargal, Government Pleader, Chingleput, M.R.Ry. Thanikachallam Chettiyar Avargal, m.L.c., M.R.Ry. K. U. Govinda Menon Avargal, Manager of the Associated Press, M.R.Ry. V. K. Kamanuja Chariyar Avargal, President, District Board, Tanjore, and geveral others.)

Sir P. Theyagaraja Chettiyar, m.l.c., M.R.Ry. Arumainatham Pillai Avargal, m.L.c., and others presided on the occasions of presenting gold medals to me for having cared cases of appendicitis.
(Appendicitis is a disease recognized as one of the 82 forms of disease on account of Vayuva.)

I have cured cases of chronic syphilis by my medicines in spite of the opinion of the Western doctors that 606 injection is the only remedy.

Mr. Jataraya Mudaliyar, merchant (near Sowearpet)-vide pages 47-48 of the testimonials. These are some of the important cases.
I submit that the Nikil Bharat Sahitya Sangam of Calcntta offered the title of Ayurveda Ratna and Gold Medal. I also take leave to state that in token of regard to me for curing cases of illness deolared hopeless by the Western doctors, I have been awarded by persons treated gold medals numbering 16, one gold thoda and a diamond ring.
Q. 3. (a) I am treating 80 per cent of cases daily free at home. I have treated thousands of labourers at my own cost for about a year in 1919 daily at the Labour Union, Perambore Barracks. A sapplement of cases attended I successfully treated was published in the local dailies. I had to give np this attempt as I am not a rich man.
(b) I do not consider that the existing institutions are sufficient to cope with the large demands owing to complioation of diseases, increase of population, increase of towns.

There are orthodox people who refuse to take Western medicine as it is mixed with water -touched by the melachas. Further Tamil medicines are very cheap.

Proposals.-(1) Government must recognize that 80 per cent of the population of the country are Indians whose castoms and habits are quite different from Western costoms. Indian system of medicine should be encouraged as most suitable to Indians.
(2) Establishment of a Tamil Medical College.
(3) Establishment of Tamil model dispensaries at first in important centres.
(4) Government should publish a manual of Tamil medicine to serve as a standard both for the physicians and the publio in English and the vernaculars-the manual to be prepared by a competent body of Tamil physicians of established reputation.
(5) This being the cheapest method can be usefully adopted and recognized by Government in every village-as at present instances are too nomerous to show that in mufassal patients in extrome cases are taken to the hospital which in a very large number of cases is far distant from the villages as we have only one hospital in the midst of 100 or more villages. If the Tamil system is adopted the complaint that very large funds are required for giving greater medical relief wonld be removed as the Tamil system is admitted thousand times cheaper than the Western treatment
Q. 4. (1) Certainly. The students should be under personal guidance.
(2) Yes. Students, teachers should have acoess to laboratories in their leisure times.
(3) Yes.

There are institutions at present, e.g., at Calontta, but none, it seems to me, in this Presidenoy, exoept the one maintained by the late Pandit Gopalacharlu whioh is beneficial only to : Sanskrit and Telugu knowing students. But the Tamil system is very largely based on the - Tamil works of Siddhar school which are some of the choicest producta of Dravidian intellect.

It is noedless to state that it in this Tamil system that prevaila to thin day in overy rook and corner of Sonthern India．We have got beat men already in the field who do silent and colid and unostentatione work bat do not care for the wordly praiee．

Thousands of Tamil phyaicians inherit their knowledge from their forefnthers．They kepp up the spirit of the system and method of preparing and administering Tamil medicine．The rnowledge of the worke is handed down from father to son for generation together．

At present，I am of opinion that intending members practising the Tamil aratem of medirine may be asked to undergo training at least twice a week withont prejudice to their professional duty in those branches of medical knowledge，vis．，Physiology，Anatomy，Hygiene，eto．A coperficial knowledge of the bare elementary principles of the constitution of the human body would supplement the practical experience they have gained in profession．This must not be understood to mean that what these sciences teach are not already found in Tamil works．In the good old Tamil works which are the authorities for the Tamil aystem，knowlodge has to be obtained by the systematio study of a student sitting at the feet of his revered master；and much time has to be devoted in underatanding and mastering the difficult stanzas by interpreting them properly．Till this stanzaic form of the Tamil works is reduced to principles and written in simple prose this system of placing the student ander the personal superviaion of the teachar is absolutely necessary．Anyhow the student has to undergo training in preparing mericinea．

Q．9．The causes of decay．－No encouragement from Government．The Tamil system of medicine flourished while the Tamil Rajas wefe ruling the conntry，and scholarship in Tamil medicine works has not been anfficiently recognized and rewarded．Numerous manuseripts there are，which have not yet been published．The fact that good acholars and good praotitionera kept their deep knowledge and vast practioal experience as seoreta is also greatly reaponsible for the decay of the indigenous system．

Revival．－
（1）Model dispensaries should be started in important centres in hig town．
（2）Just as there are several grades among Weatern medicine men，Tamil physicians－ should be also classified corresponding to Apothecary，L．M．S．，eto．
（3）The peculiar cases treated snocessfully shonld be pablished in a Medical Journal．
（4）Periodical inspection of dispensaries by the Medical Board．
（5）Success in dispensaries should go to make juniors into seniors．
（6）A Government Botanical Garden of medicinal herbs should be maintained．There should be also a vacant land for preparing medicines．
（7）The register containing names of patients，diseases treated should be verifled．
Q．10．The Collector should punish those quacks who epoil case by neglect of duty．Super－ visors should be appointed to supervise the work of village medical men．Government should offer titles to the deserving men in order to attract a large number of men who though fully qualified do not come forward for want of public spirit．I wish the Committee all auccese．

At present the University cannot undertake to do anything in the matter．When these proposals are brought into effect successfully，attempts may then be made to institute periodical， examinations in Tamil medical worke．

## M．R．Ry．MARUTHAVA SIROMANI PANDIT O．S．MURUGESA MUDALIYAR avabgal and m．r．Ry．Pandit shanmugasundara MUDALIYAR avabgal．

Q．1．If＂Siddha system＂is meant，the age－long Ayarvedic system obtaining in Southern＇ India，it is that system we propose to deal with．

But we desire the benevolent Committee to be kind enongh to adopt the neme＂Dravida． Ayurveda system＂in lieu．

The reason for recommending to adopt the above name is based upon the following argaments：－
（a）The knowledge of preserving one＇s health sound and prolonging his life is called＇ ＂Ayurveda＂．

The word＂Ayu＂（gul）is an abbreviated form of the word＂Ayal＂（क山宁）．Ayp in： interpreted to mean＂Vayn＂－a vital energy which is to determinq one＇s life（ヘш末）；Veda－ knowledge．

It is very common even among the illiterate mass to question the Vaidya attending upon a patient in a precarions condition，＂Sir，How is Vadham $?$＂i．e．，what is the condition of the Vadha，the vital thadha？（ $\boldsymbol{\sigma} \pi / \boldsymbol{c}_{1}$ ）．If the reply were to be that the vadham is good，the questioner is at once satisfied that the patient is out of danger and his life is aafe．Therefore－ ＂Vaya＂is not wond but the life or soul force．Compare the following ：－









The knowledge (science) of preserving one's health sound and thos prolonging life 18 said to have descended from Irrayanar to Ammyar, thence to Muraganar, Nandhi, Agastiar and other siddhas who are all of the Dravidian stock, to which belong the present 5 (five) divisions of people speaking the languages of Tamil, Telugu, Kanarese, Malayalam and Tuluvam. Therefore, the soience is a common property of these five divisions, whatever changes the soience in: the original tongue of these people might have undergone since. And to aall it therefore Dravidian is more appropriate than to baptise it as Siddha or Tamil or Agastia or by any other name which would rather sound harsh in the ears of the people speaking the Dravidian languages other than Tamil and would, in our opinion, be a misnomer.
Q. 2. (a) The theory or theories of causation of disease according to the above aystem are-
(i) Heredity (including cases of child-complication and diseases incurable in certain sases, whereas they are curable in several other cases called otherwise diseases of Karma, that -id, due to one's own unpardonable action).
(ii) Infection (including those caused by poisonous baoteria, mosquitoes, reptiles and other inseots, etc.): -
(iii) Climatio influence (such às exposure to severe sun, rain, snow, air, eto.).
(iv) Extra mental or physical exposure or exertion.
(v) Non-hygienic habits or doings (such as unwholesome or contaminated food or drink and drinks of alcoholic nature).
(vi) Accidental occurrences, eto.

As our theories have stood and sarvived the test of several centuries without being rejected as in the case of theories of other systems, we are strongly of opinion that our theories would stand the test of modern scientific oriticism except the theory of Karma which is far away from the reaoh of the Western soienoe, yet it is hoped that time is not far off for that soienoe to ombrace this theory with all love and pleasure.

(b) Before going to the principles of diagnosis of disease; we wish to say what a disease is as per our system. It is the disturbed condition of Thadhus, viz., Vadha, Pitha and Kaba . from their normal degree, i,e., from their normal condition of existence in a healthy man in the proportion of 4:2:1 respectively.

The principle adopted in diagnosing the disturbed Dhadha individually or in combination with one or two of the remaining Dhadhus is the application of the soience of palsation. To make sure of the diagnosis of the (Dhosha) faults of the Dhadhu, the follnwing additional tests are adopted of -
(2) body as a whole and face especially,
(3) voice,
(4) tongue,
(5) eye,
(6) exoreta,
(3) voice,
(7) urine,
(5) eye,
(8) touoh,

Further tests are also employed on the prinoiples enumerated in-


## Methods of Diagnosis are-

By making out clearly, through the help of the soience of pulsation, the partioular Dhoshe or Dhoshas (faulta) due to the disturbed Dhadhu or Dhathus as above referred to. In doing so, the hour of the day, the day of the week, the month of a year, the forward, baokward or side movements of the Dhadhu or Dhadhus and the varions degrees of beats, too elaborate to mention here, are to be taken into consideration and in oalculation of the disease. If it is desired to know something of this soience in detail, we beg to request you to refer to the works like the following :-

Soience of pulsation by Theraiyax, Aghastiar, Maohaimuni, Sathamoni, ©fearair,


If doubt arises as to the correctness of the Dosha or Doshas so arrived at, the next methods adopted are by looking to the skin of the body as to its colour, especially of the face and by the degree of voice and colour of the eyes, tongue, exoreta and nrine, and by temparature of the body by touch.

By finding ont the external symptoms exhibited by the patient and tracing them to the diseace to which they pertain.

By questioning the patient as to his general disposition and feelinga.
By noting down whether the disesee is curable, incarable or carable early or at a longer period or partly.
 partionlar divesse which a patient io suffering from at the time of eximination, but siop beppe to formen whot othme disecie or divencen whioh be is likoly to be enbjeoted to cooner or lator.

The principles of treatment adopted are-

(1) Moni is desoribed as solid beads of mercury so prepared as to be fit to care dimenes when applied to the body in a certain presoribed manner. They are aid to be of seven clacean.
(2) Mauthra includes-
(i) chanting of sacred words,
(ii) applying of charms prepared out of vegetablee, minerals, etc.,
(iii) asing Yogis' powers which may be compared with olairvoyanoe, meemerization and hypnotiam.
. N.E.-There above two principies of trentment remain in the hande of opeajaliets and, though they may ta explored from tho exiating works, yot mucoes, onald not be sobioved unlese belp from thoe mpeoialiste are fortboming to anderatend the teahnical terms employed in the works.
(3) Aushadha is of three kinds, vis. -
 similar to those of the disease.
 the symptoms of a disease.
S.B.-These two syoteme of oure may be fairly compared with thom of Homeopathic end Allopathio ayoteme of oare.
(c) Kalapparai ( $\propto \propto \dot{亡} \varphi \boldsymbol{\infty}$ )-A cure by adopting the combination of the above two methods jadicionsly and atrengthening the action of the drug by an additional drag or drage of similar actions whenever required.

The above three main divisions comprise in chief the following description of drags:-

| 8 |  | ... | 25 | Arse |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Oparasas |  | ... | 120 | Metals (excluding alloys) | 8 |
| Arsenics, natural | ... | ... | 32 | Plants (inoluding the ohief 64) | 1,008 |

With the help of the above druge, medicines of the above category are prepared in varione forms as under:-

In case of diseases of operative nature, besides intermal medicines, the following methode are also adopted :-
(1) அ்்டை.
(2) 8 ェவ்.
(6) बூ
(i) கு (ொேf.
(4) Qொம்ப.


(8) $\boldsymbol{\square} \dot{\boldsymbol{r}} \dot{\boldsymbol{y}}$.
(9) Gavo. etc., etc.

C'hese preparations are again divided into three classes-


 diseases.

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Compare with-
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        ఎக்
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N.B.-In certain sybtems it is said that certain diseases are curable only after reaorting to the Panobyelkarme treatmont, but in the Sidbe aystem thees disesess can, without the aid of Panchs-karma, be treated with the halp of madioines of metallio proparation (Devarai), vils, Bammam Chindursm, Charnem, ete. These forme of medicipes of agreen ble taste are found to effect a speedy cure in a ohorter period poemible. Doses, too, are too aralll.

Methods of treatment-Before prooeeding to treat a patient, the following pointa are -observed, vis. :-
(1) The study of-
(i) General structure of constitation.
(ii) General health, especially of the digestive system.
(iii) Habits.
(iv) Mode of living with special reference to food and drink.
(v) Duration of suffering.
(vi) Climate and season.
(vii) Idiosyncraoy (of the patient).
(2). When this is done, the next procedure is the administration of any one or two of the medicines of the above descriptions internally in such a dose and vehicle as would effeot a speedy reoovery and application of such drug externally as may be fonnd neoessary to bring down the -disturbed Dhadhas to their normal proportionate condition.
(3) Allowing only such food, drink, clothing and dwelling as would further help or hasten the recovery.
(4) Douching either to the body as a whole or a part thereof with medicated oils, -decootions, cold or hot water, etc., and massaging the whole or part of the body with medioated -oils or thylams.
(5) On recovery and while oonvalescent, nsing such medicines and putting on such diet -as would tone the impaired Dhadhu or Dhathus, the essential parts of the homan body, vis. :-
(1) Rass-the lymph ${ }^{-}$
(5) Masoha-the brain or marrow-
(2) Raktha-the blood
(3) Mamsa-the flesh
(6) Asti-the bones
(4) Metha-the visoous fluid
(7) Sukla-the semen.

With regard to the general efficiency of our system it is needless to asy anything about it, for it is a well-known fact that, in apite of a very heavy expenditure inourred by the Government in the Medical Department, it is not able to extend its help to more than, say, 10 per cent of the population. Then what would be the fate of the remaining 90 per cent $?$ Is not the indigenous : system that steps in to help them? The resort of the major portion of the population to the indigenous systems of treatment is in itself a proof positive to show as to their nature of general -efficiency.
(c) Yes. For instance, Piles, Fistula, Polypus, Catarast, Calculus, Gravel; Carbancles and similar such diseases which are cured mostly by operation are treated and cored effectively with medicines alone (both internal and external as required).

Aoute fevers of all sorts, enlargements of spleen and liver, chyloria, diarrhcea of viralent nature, specially of cholera, etc., paralysis and other akin diseases of the nervons system, volvalar - diseases of the heart, lenoodarma, leprosy, diabetes, consumption, acute rhemmatism, sterility, plague, eto., come out with greater success of care under the indigenous D.A. system than under other systems.

As records are not maintained of cases oured, a few of the certificates are herewith sent.
Q 3. (a) The sangham, on whose behalf this is submitted though it does not own an institution either providing medical relief or medical education, yet it has most of its members connected with institutions of their own for medical relief and some providing medical education and training only to a few students seeking their help.
(b) 1 and 2.-The existing institations, such as Lee Chengalvaroya Naicker's Dispensary, Sri Kanniga Parameswari Dispensary and Kalavala Kannan Chetty's Dispensary provide medical relief. As far as the funds at their command is concerned, they are doing good work. If more is expeoted of them, it is possible and practicable if some contribition is forthooming from the State.

The above institutions are no doubt suitable for medical education and more so the Ayurvedic College at Triplicane. bnt all these institutions do require financial help to carry on the educational work on a satisfactory and elaborate basis.
N.B.- None of these institations give metical relief or efucation on the line of the Biddhe (Dravida Ayarveda) bystem.
(c) No provision appears to have been made at all for medioal relief or education or for both on the line of Siddha (Dravida Ayurveda) system.
Q. 4. (a) 1,2 and 3.- Yes, as far as we are informed, the ideal is attainable in the near future in the institutions like those at Mysore, Travanoore, Calcatta and Delbi and regret to find that none of these are worked after the Siddha system. It is highly desirable that this presidency takes imnediate steps to organize an institation on the hines of Siddha (Dravida Ayarvedic) system.
(b) We do not consider the ideal too high for the present and it is attainable in the near future if Government only renders a liberal help to fructify the suggestions given to Q. 10. If the financial pressure of the Government stands, in the way, the starting of a college in the oapital oity of the Government, on a smalher scale, with the necessary equipment would be the ideal to be altimately achieved for the present.
Q. 5. Even though there is an obviove and a promiaing deaire among the edherente of the indigenous aystems for closer touch with modern wientific methoda whiah ia highly commendable, we do not agree with the view that the distinction between the Indian and Wectern 'ayatema! of medicine would disappear. It is for time to judge. But wo hold the view that aceimilation is possible and practioable on either side for their further growth and developement, to preserve which there must be an unbiased spirit of mutual confidence and practional oomperation on either side.
Q. 6. (a) Yes, in all branches (as per enclosed study of course).
(b) $\mathbf{A}$ course of $4 \frac{1}{2}$ years is suggested.

A knowledge of the local vernacular, i.e., to read and write correctly and to be oapable of making out clearly the meaning of books written in a lees diffioult poetical style.

Of having completed his 18 th year.
Of good physique and character.
(c) Through the local vernaoulars as far as practioable.

1. Anatomy.
2. Chemistry.
3. Physics.
4. Anatomy.
5. Chemistry.
6. Dissections.
7. Materia Medica.
8. Hygiene.
9. Bacteriology.
10. Medicine.
11. Treatment.
12. Pharmacy.

First year's course.

$\left.\begin{array}{|l}\text { 7. Pulsation and } \\ \text { Ashtathanam. }\end{array}\right\}$ General.
7. Materia Medica.
8. Pharmany.
4. Pulsation, eto.
5. Physiology.
6. Curing of drage.

## Third year's course.

## 4. Minor surgery.

5. Pathology, General and Practioal.
6. Pharmaoy.
7. Pulsation, eto.
8. Medioal jurisprudence.

Fourth year's course.
$\left\lvert\, \begin{aligned} & \text { 4. Pathology } \quad \text { (including } \\ & \text { mental diseases). } \\ & \text { 5. Surgery (operation). } \\ & \text { 6. Midwifery. }\end{aligned}\right.$
7. Ophthalmology.
8. Diseasen speoial to women.
and ohildren.

Fifth year's course.
Practical treatment and sargery for a period of aix months in a hospital or ander a trained medical practitioner.

If the candidates undergoing examinations in the above subjects aecure not less than-
(a) Thirty per eent in each anbjeot and 35 per cent of the aggregate number of marke, they are to be classified as Bachelors of the Science of Dravida Ayurveda [B.8o. (D.A.)].
(b) Thirty-five per cent in each subject and 40 per cent of the aggregate number of marks they are to be classified as Master of the Science of D. Ayprveda [M. Bo. (D. A.)].
(c) Those students who fail to obtain either of the above degrees but secure fair knowledge in subjects of general nature and exhibit sound knowledge in a speoial technical subjeot, may be granted a diploma or a certificate allowing them to practise in that special branch, eooh as diseases of women, etc., or ophthalmology, and so on, and they may be etyled as L.M.P. (Ophth), L.M.P. (Diseases of Women and Children), and so on.
Q. 7. With regard to the question of extending medical registration to the indigenous system, of medicine, we are of opinion that its extension is necessary and desirable bot not at the freeent. stage. This question should lie over till the Government brings in inatitations with powers to grant degree, diploma or certificate to any person declaring him qualified to practise medioine or sargery, etc., under the indigenous system and also grante privileges which the practitionery of the allopathic system now enjoy under the Act.

It will not be out of place here if we point out that the Madras Act IV of 1914 came intoexistence only after a very very long period of introduction of the allopathic syetem in India and that after giving the system every facility for its fall growth and development in the way of establishing colleges, hospitals, dispensaries, asylums, etc. If similar facilities had been granted to the indigenous system as well, it would now be time to extend the seope of the Act to it. In the absence of any such facilities, or at least encouragement, we are driven to the conclugion that. it is rather premature to think of the Act at this stage.
Q. 8. In our opinion, when the oost of treatment according to allopathic and indigenone. systems is compared, the cost in the latter aystem is undoubtedly cheaper than that in the former. The reason is simple. The indigenous system, in almost in all its preparation of medicines, depends mostly upon the produce of the land of its own birth, obtainable at a nominal cost (in cases moslly of plants), whereas the allopathic, in almost in all its preparation, depende. wpon foreign countries both for raw materials and for sale.
Q. 9. In our opinion, the oausea of decay are many, of which we wish to give only a few, -is.
(a) The first and foremost canse is the failure of the Government in not encouraging and oupporting the cause of the indigenous system.
(b) Ita step-motherly affection while fostering the allopathic systems to negleet the systams of the land (of their birth).
(c) The waste of an enormous amount of money of the people only on a system foreign to them and only be useful to a amall nomber of the population, say abont 10 per cent.
(d) The advent of foreign civilization and language and their adoption by the people of the conntry and the negleot of civilization of their land and tongue.

The stimulation of the adopted civilization began to look upon all that is native with hatred and abhorrence and that of education, though began to help otherwise, yet stood a serious detriment to the advancement of the languages of the country, thus rendering the love of study of the science of the land and the enjoyment of its froits a thing of the dead past.
(e) The failure of men of high-rate ability and of recognized standing to persuade students to their side of stady inasmuch as the stadents have discovered that the time and energy spent in thinge oriental are not paying and that there is no soope for leading a comfortable living.

Our snggestions for revival are those given against Q. No. 10.
Q. 10. The indigenous systems of medioine can be fostered if the State should undertake to support the growth and development of the indigenous system as kings of olden days have done, namely, in the following respects:-
(a) Collecting all the works, of old and preserving them in a certain central place, preferably in the capital oity of the presidency, and doing research work.
(b) Rewriting them in the light of the modern science.
(c) Tranalating them in the ohief vernaoulars of the presideney.
(d) Printing them gradually but hastening the printing of suoh works as are of immedi--ate benetit.
(e) Reprinting those works freed from the various errors to which they are prone to.
( $f$ ) Translating useful wo sermerergn languages into the vernaculars of the -oountry.
(g) Establishing colleges and sohools in important centres with necessary equipments.
(h) Establishing at least a laboratory in the capital town wherein there may be a free esope to prepare medicines of all natare, especially of higher order.
(i) Establishing dispensaries in every group of villages for treating the patients.
(j) Establishing hospitals and asylums in important centres of distriots.
(k) Creating a garden wherein to grow plante, etc., both of ordinary and extraordinary nature, for educational porposes at least.
( $l$ ) Forming a museum wherein preserving all drugs suoh as metals, salts, uparasa, arsenia and dried plants with names in various languages.

Local boards--Helping the Government in the above points as far as their funds could permit, in aceordance with the need of the locality under their jurisdiotion.

## University.

(a) Affiliating to it the colleges and sohools established within the area of its control.
(b) Helping in printing work or presoribing works in existenoe in a manner suitable to the study of students of the schools and colleges.e
(c) Carrying out examinations once or twice a year and granting certificates and degrees to sucoessful candidates.
(d) Helping the advancement of the system as it is doing now to the Allopathic system.
(e) Instituting a researoh acholarahip temable for four years to a scholar well versed in the Dravida Ayorvedic system (Siddha) and delivering course of leotures under its anspices of the University whioh in the end to be printed in book form.

## Private Agencies.

Making better use of such enoouraging help as may be forthooming from them.

## M.R.Rẏ. PANDIT S. S. ANANDAM PILLAI Avargal.

Q. 1. I practise Tamil science on medicines-Siddah's systems.
Q. 2. (a) Causes of diseases-(1) inheritance, (2) excess or deficienoy of food, its taste, its - effects on the constitution, (3) exoess or deficiency of sexual intercoarse, (4) working so as to affeot mind and body, (5) abnormal duration of any of the seasons of the year, (6) worms and insects on land and in water, (7) suppresaion of the fourteen natural discharges of the human body, (8) foul air and impure water, (9) anxiety and excessive fear, (10) association with person affeoted by contagious diseases and (11) affection of the pulses owing to want of sufficient sle日p and rest, osusing three doshams, eto.
(b) The nature of the divease is diagnowed by means of ' ten teate ', eg., pribee, coorstion,. excretion, tongue, eye, temperatare of the body, colour of the body, roice, maliva and eemen. Then the cause and different stages of the disoase are diagnosed. Then disensees are oured by interral and external application of medicines with or without diet. Our forefathers adopted the Biddha's system and oured a number of disesees, such as fevers, titannas, dyspepoia, venereal diseneens, paralysis, etc. The same aystem is being adopted by me and I have aloo cured a number of dimeace. But I have not kept any account of the patiente eared by me. I have, however, teatimoniala from some of them and some of the patiente are atill alive.
(c) Fever, delirium, hemiorania, rheumatism, dyspepaia, paralysin, elephantiania, dinketes, leprosy, janndice, dropay, which found no oure in the Allopathio dispensaries, have been oured by the siddha's system. If necessary, testimonials will be furnished from the patienta cured of these diseases.
Q. 3. (a) Yes. I have been a member of the South Indian Ayurvedio Sangana.
(b) (1) I know of two dispensaries conducted on the Tamil system-one at Washermanpet and the other in the Mint Street. The patiente there are well attended to.
(2) No instruction in medioine is imparted to any one in the dispensaries.
(3) Funds being inadequate, these dispensaries are conducted on mall soale, but it may, however, be observed that they are progressing. If ample funds are secured from the generons pablic and Government, they will work satigfaotorily.
(c) No. If institations to educate men in medioine are formed and text-books comprising the essence of the several treatises on medicine are compiled, this indigenous system will then alone work very efficiently.
Q. 4. (a) 1,2 and 3.-Yes. It cannot be asid definitely that there is any diapensary oonducted on the Siddha's aystem where the ideal is attainable. But if auch an institution containing dispensary, laboratory, library and museum and a garden of good herbe ia establiahed in Madras where there are several facilities, the ideal can be attained in the near future if the State helpe.
(b) The ideal is not too high to achieve.
Q. 5. I agree. By a thorough study, research and inveatigation of the Indian ayatem and by comparing results with the Western aystem, it may be possible to verify the aystem. But it may take some time. It will be necessary if to work to that end, to translate in different vernaoular treatises dealing on the preparation of specific medioines, such as chenduram, buspam, etc.
Q. 6. Yes. The course of stadies should be drawn up by experts of both the eysteme.
(a) That there should be grades as in the English aystem acoording to the efficienoy of the oandidates learning the Siddha system.
(b) In Tamil the student shonld possess a sound knowledge of its literature. It will do well to have a knowledge of English as well.
(c) The mediam of instruction should be Tamil anid the conrse of instruction should amount to three or four yoars. Succesgful candidates should be awarded with titles anch as Marathuva Pulavan, Maruthuvamani, Maruthuva Siromoney, eto.
Q.7. Though the native doctors in towns and villages are of different merit, yet they sucoessfully treat the patients. Their names shonld be registered as in the case of English doctors.
(a) Yes. The board should consist of equal number of representatives of Ayarvedio, Siddha and Unani doctors.
Q. 8. The treatment according to Siddha's system will not oost as much as that aocording to the Allopathic system. Tamil medicines do not cost much. Patiente are cured by the Tamil medicines in a shorter period than that by the English medicines. The disease does not recar and the patiente do not suffer any relapse of the disease. The fees to native doctors and the diet to the patients do cost only a little. In the Siddha system of treatment no nurse is necessary and the female members of the patient can conveniently attend to the wante of the patient and look after him. The native drugs 'lingam, veeram, puram, rayachenduram, etc.', were cheaply available before, as they were prepared in Tamil towns and villages, namely, Kumbakonam, Pondicherry, Coohin, ete. At present these medicines are not encouraged, and no they have become rarely available. If the old system is revived these Tamil medicines will become very oheap.
Q. 9. The Tamil medicines are not dead. In most of the villages, thousands of them are in daily nse and there are numberless doctors in these villages. Allopathio doctors and dispensaries are not in sufficient numbers in villages-a matter well-known to all. It cannot be denied that thousands of patients in towns and villages are now being treated by native doctors. Not only in the Madras Presidency but also in Ceylon, Borma, Straits Bettlements, East Indies, Madagascar, etc., the Siddha system of treatment is even now very popular. Not being sufficiently encouraged by the rich and influential gentlemen and by the Government, the system is declining day by day. This also leads to the scaroity of expert practitioners of the Siddha system.
Q.10. (a) to (d). Sufficient funds shonld be collected to establish ' A Tamil Medical Research' sonsisting of men sonnd in Tamil literature and expert in the Siddha system. Tamil treatises on medioines not now in print bat only in palmyra leaves shonld be collected and printed and formed into a library. A laboratory stored with all Tamil medicines ahould also be formed. Tamil medical men should learn how to prepare the medicines in the laboratory. Stadents that..
come out successful from this Mediosl College should be provided with work in the hospitals in oharge of the onions, taluk boards and monicipalities. Government; district monioipalitiea, local board and Senate should help the college with necessary funds.
(9)

## HAKIM A. Z. MUHAMMAD LATEEF-UD-DIN SAHIB BAHAdUr.

Q. 1. I propose to deal with the Unani aystem of medioine.
Q.2. (a) and (b). The Unani system is fundamentally based upon the four controlling agents or homours known as Khoon, Balgam, Safra and Savooda. Any derangement of the above oontrolling or functional agents brings about an unnatural state of the body which is otherwiee known as disease. The cause of the derangement is three-fold, namely, Badi, Siyakh and Vasil, which include external influences and internal canses constituting both conerete and abstract (vide Khanoona-Ilaj Unani). The diagnosis of the canse for the disease is made in three ways, namely, Kharoorn, Shanasi, Nabs Shanazi, Khiyapa Shanasi, i.e., (1) by examining the urine of the patient, (2) by feeling the pulse, (3) by the external appearance of the patient (1) Urine is examined by the appearance of its colour which is influenced in accordance with the abnormal state of the controlling agents affecting the internal organs. Thus the physiological action of the internal organs, such as brain, heart, liver, lungs, spleen, kidneys, etc., is detected and proper remedies prescribed. In certain cases the urine is also boiled for diagnosis (vide Risa-e-KharooraShanasi). (2) The action of the pulse or the beat of the artery which depends upon the dialation of the heart, the most important organ of the human syatem, is defined in a variety of waya for the purpose of an easy understanding with regard to its functions both normal and abnormal due to the derangement of the controlling agents or humours (vide Risala-e-Nabs-Shanasi-Unani). (3) The external appearance of the face, eyes, tongue, lips, etc., which undergoes a radical change owing to the abnormal function of the internal organs due to the derangement of the controlling agents, suggests the state of his internal organs and the consequent disease to which the patient is subjected. The properties of all the medicines are derived from their elementary or oardinal qualities-the hot, the cold, the moist and dry. If a disease is classed hot or cold, sthenic or asthenic, a medicine with the opposite virtue is prescribed. In certain special and rare cases a medicine with a like virtue is prescribed) 'Elajush Shai Ba Ziddihi Hifeu Shai Ba Mislahi'). Just as there are four cardinal qualities of drugs so there are four stages in a disease. The prescribed medicine should tally with the stage of the disease. In presoribing medicine, the greatest care is taken to see that it is mathematically correct according to the inherent qualities of drags which go to form the medicine (vido the method of presoribing Khanoon-e-Tlaj-Unani). These theories which were propounded some thotisands of years ago have to this day withstood the test of time and have ensured aniversal approbation. The Western science has not, I think; discovered its truth owing to the prejudice and ignorance of its soientists. This system which is in vogue in India from a very long time is oheap, popular and suited to the olimate, the dietio nature and the environments of the people.
(i) Yes. Because in several aases where English doctors have given up oases as hopeless the treatment under this system has resulted in undoubted and oltimate benefit to the patients, particularly in venereal and other funotional diseases.
Q. 3. (1) (a) I have my own institution where medicines are prepared according to Unani standards and where the poor are treated free.
(b) No. The medical relief afforded by the existing institutions is very inadequate - since no support is extended by the Government or by the local boards and the manicipalities: both for equipment and the provision of free education on these lines. To make the medical relief more adequate in consideration of the present deficiency, the following scheme may be adopted: (1) All major unions, municipalities, talnk headquarters and groups of villages oombined together should be provided with a free dispensary on indigenous lines. (2) In each district headquarters there should be a hospital on indigenous lines admitting in-patients to which may be attached a school providing medioal training on indigenons lires. (3) There should be a oentral General Hospital in the Presidency headquarters with a college attaohed to it providing medical education on indigenous lines with necessary equipment for laboratory work, researol work and soientifio demonstration on up-to-date lines according to the indigenous systems.
(2). They are not designed to serve as centres of education but with better equipment and financial support they could be made useful as centres of medical edncation.
(c) So far as the mufassal is concerned I am afraid there is no organized provision for proper medical education. At present the dootors have always some students under their instruction, but the courses are not definite and the period presoribed. This could be solved by the institution of a central medical school of education whose ourricula of studies should be deoided on by a oommittee of experts of this system who can draw up a programme for such education This could not be done without the conjoint efforts of the Government and the local boards and the co-operation of the public.
Q. 4. (a) (1) Yes. (2) Yes. (3) Yes. (4) This ideal is attained at present in institutions like the Tibi College at Delhi. This ideal is attainable in the near fature if the institations of indigenous systems in Madras are extended in their soope and usefulness.
(b) The jdeal oould be attained by the opening of a medionl echool in each dietrict for giving medicines and by training otadento eide by side.
Q. 5. I do not agree with the view of the Calontta University since it in a dual betwren the saltaral attainmenta of the two anequal ayotems. The so-called obrious and promining deairo of the indigenous physicians is not to import the principles or the theorive of the Wretern arstem into their own but to get acquainted with the practice of the art of enrgery.
Q. 6. The proposed central sohool of medical edacation in each district ahould include a at udy in the vernacular of modern eciestifio methode.
( $a, b, c$ ) $A_{9}$ I have already suggested above the committee drawing up the curriculum of study could decide apon this matter.
Q. 7. There mast be a system of medioal registration by a board of indigenone arsteme of medicine.
(a) The registration board should consist of eminent Unnni dootore elected by the indigenona practitioners and associations in the Presidency and who could command confidence not only among the members of the profession but wield influence among the public also.
(b) The answer to this quention becomea aatomatically negative in virw of my answre to the above.
Q. 8. The oost of the indigenoas aystems of medioines is very cheap as compared with Allopathio system of medicines. Further, most of the drugs used are well known to the penple who have oonfidence in their therapentic value and are eacily obtainable as oomparrd with Engliah Pharmacopoeia. A number of drags used in India are imported into England whrre they aro converted into various tinotures, mixtares and compounde and retransmitted into this country. In my opinion the indigenous system of medioine has languished for want of support and encouragement. Further the system in season and out of season has been decried by Allopathio practitioners so that people who for generations had loved and adopted the Unani nystem been made to lose confidence in the efficaoy of the treatment which was fostered and univerasily adopted during the days of the illustrions earlier Kings who ruled over this oonntry. Even to-day thero are oertain families who are descendante of royal physioians who have handed down from generation to generation the most important specifio acoording to these aystems. I would saggest that a oentral sohool be at onoe formed and a oommittee of Unani doctors be appointed to frame a soheme of studies co-ordinating the indigenous systems.
Q. 9. (a) The State can form the central school of education at Madras, form the committee proposed, co-opt English practitioners also and pat the acheme on firm basis.
(b) The local boards and municipalities may be made responsible for the proper conduot and work of the branch hospital to which should be attached a small training section to undertake maintenanoe of hospitals which should be augmented in taluks and unions,
(c) The Universities should provide degrees for examinations.
(d) Private agencies may be called apon from time to time to render aseistance in any manner required.

## M.R.Ry. PANDIT NARAYANA AYYANGAR Avaranl.

Q. 1. The view has sometimes been expressed in responsible quarters and the notion is even now corrent that Ayorveda is no 'soience' and that the method of treatment puranad by those acquainted with Ayurveda bolongs to no 'system'. A olose examination of the anoient works of Ayurveda, such as 'Charaka, Busruta, Ashtangahridaya, Ashtangasangiraha, Masaratna Samnchaya, Rasaratnakara, Rasahridaya, Rasaprakasa Sudakara, eto., reveals unmistakably that medicine had been developed into a perfect science by our ancienta. Instances could be mentioned -of topics on which we could give points to Allopathic practitioners ateeped in the progressive notions of modern eoience. For instance, these treatises mention about 107 vital spots in the body of man, and the physioian is enjoined to be specially careful in the handling of any silment affeoting those particular places. Modern methods of surgery apparently make no dote of this cantion.

Again the high efficacy of metals and minerals like iron, meroury, etc., is realized even in the Allopathic system, and yet Allopathic practitioners have not been quite able to employ meroury and iron without producing the deleterious effects which they would produce if they are not properly parified. Whereas the Aycurvedic physioian is an expert in so purifying these substances that they produce only their good effecte withont any of their evils. In fact, this aspect of the Ayorredic system has been felt by some eminent Allopathio practitioners and they have been forced to concede that Ayorveda has, imbedded in it, some stray reeipes which are effective in isolated cases. I must repeat that observations like the above are the resalt of ignorance or prejudice. I say this not on account of any misplaced predilections or mistaken patriotism but out of a deep conviction formed by a minate and careful study of Aynrveda and an experience of over twenty years as a physician practising the Ayurvedio system and fairly acquainted with modern Allopathic methods and as one who has come in frequent and friendly contact with medical practitioners of high ability and repatation and belonging to both systems. I may conolude by saying that I am ready and willing at all times, nay, even anxious to answer all
questions that may be put in respeot of any of the matters covered by the Government's reference to the Committee. I shall ondeavour to substantiate all my views in the light of modern reason. and logic.

I may answer the questions by saying that I propose to deal with the Ayurveda system. But I may mention in passing that the clasifioation in the question in the Ayurveda, Unani or Siddha is not quite correct ; strictly speaking, both Ayurveda and Siddha are comprised in what may conveniently be described as the Sanskrit system of medicine dealt with in the anoient Sanskrit books. Those books refer to the system of treatment by herbs and drugs as Ayurveda and that by metals and minerals as Siddha ; but it is perhaps not neeessary to pursue this matter further here. Apparently the question has reference to the three sohools of treatment followed reapeotively by those versed in the Sanskrit. works, by Mussalmans and by those trained in Tamilian methods. And I , therefore, answer the question by saying that I propose to deal with the Ayurveda system.
Q. 2 (a) Aocorrding to the theory of Ayurveda, abberations of weather and ohange of seasong, food and generally the objects with which the senses are fed and the exicess or deficiency of exertion in mind, body and speech are the general causes of diseases. Partioular oauses are mentioned for particular diseases bat they would of course come. within some or other of the above three general headings. I think all the progress of modern scienoe has tended also towards the same conclusion as to causation of diseases:" If necessary, I am prepared to substantiate this. in detail.
(b) The methods of diagnosis followed in the Ayurveda system may be stated to be eight in number, viz. (I will first mention their Sanskrit names and then explain their meaning)-

By reference to (1) (Nidanam).
(2) (Purvarupam).
(3) (Lakshanam).
(4) (Uравayam).

By reference to (5) (Samprapthi).
(6) (Darsanam)
(7) (Sparaanam).
(8) (Prasnam).
(1) Nidanam.-What took plaee prior to the contriacting of the disease.
(2) Purvarupam.-Prior symptoms.
(3) Lakshanam.-The first manifestation of those symptoms.
(4) $U_{\text {pasayam.-Empirioism. }}$
(5) Samprapthi.-Aotual forms whioh disease assumes.
(6) Darsanam.--Sight.
(7) Sparsanam.- Touching that is, feeling the pulse, ete,
(8) Prasnam.-Questioning the patient.

With a view to make myself better understood I shall illustrate the above by referenop to a partioular disease. Take, for instance, the most common disease, viz,, fever.

How to find out whether a particular case is a case of fever by applying these methods-
First by Nidanam. -The Sanskrit books have mentioned certain pre-disposing factors (as tending to bring about fever) such as eating in excess bitter, pangent and sour foods, gross underfeeding, untimely meals, suppressing stools or urine, making efforts to pass stools when thers is no actual call, waking up at nights, orying hoarse, exoessive labour, sudden fear or sorrow or oare, reckless sexual interoourse, exposure to the sun, eta. (vide Ashtangahridayam, ohapters 1 and 2 of Nidana).

Therefore the anoient Sanskrit writers enjoined the followers of their system first to ascertain from the patient about what took place prior to his contracting the disease. From this they are able to guess the nature of the disease.

Secondly Purvarupam.- Here again the text-books have montioned cortain symptoms as preoeding the actual attack of fever, e.g., laziness, lack of taste in anything, oortain heaviness of the body, a shiny sensation in the mouth, disilike to food, yawning, eyes getting ohooked with water, indigestion, weakness, tendency to sleep, convulsions, giddiness, ete. (vide Charaka Nidana, ohapter 1, and Ohikitsa, ohapter 1; Ashtangahridayam Nidana and Chikitsa, ohapter 1).

Therefore the Ayurvedio physician here asks about prior symptoms.

[^3]Fifthly 8 amprapthi.-The actual form of the disoace, i.e., high temperature. Thin probsbly needs no elaboration.

Then by sight of the patient.
The books mention that a patient suffering from fever often looke or talke excited or ahivere, etc.

From this also disense could be inferred.
Nert by tonching the patient.
This inoludes feeling the pulse, applying the ear to the heart, cte. The books have desoribed the condition of the pulse and the beatings of the heart both in the normal condition and when there is fever or any other ailment.

Lastly by putting questions to the patient. This ie, of oourse, the commonest method at all times and among all systems. These are the principles of dingnosis followed in the Arurvedio system, and it will be seen by a mere reference to them that they are quite exhanstive, and that there is not likely to be any disease that would baffle these methods of diagnosis.

As for the methods of treatment, our pharmacopoeia consists of mixtures, pilla, powdera, lehyams, ghees, oils, etc. These are administered with due regard to the nature and duration of the disease, the portion of the body affected, the age of the patient, the season of the year, the portion of the country he lives in, the diet to which he is ordinarily accustomed, hia strength, powers of digestion, eto. It is not quite possible to compress in the form of one anawer all the points that it is necessary to mention in regard to methods of treatment. I am quite prepared to elaborate every one of the varions points that may arise in this connexion with epecific illustrations if a separate opportunity is given to me for that purpose. But suffice it to say now and here, that from steam bath and mema to the prescription of medicated animal food our ayatem is familiar with diverse methods of treatment.

As for the general efficacy of the treatment adopted in our aystem, my opinion in that the Ayurvedic system stands the test best. There is absolutely no disease on earth which has not been mentioned in the ancient works on Ayurveda. And a treatment has been premeribed in them for every disease. My experience has shown to me that practitioners trained in the Weatern system of medicine have been learning of the exiatence of some dispasen only as the diseases themselves are breaking out and have produced their effecta, and that even then, their methods of grappling with the deceased are a series of experiments in the nature of leaps in the dark. The Ayorvedic system suffers from no such fault. Take the case of plague. The two common remedies that are being anggested now are evaonation of the affected area and inooulation. But I have myself cured some cases of plague by administering the medicinea prepared in acoordance with the system of Ayurveda. In the case of inflaenza again, I have cured very many cases which Allopathic practitioners experimented upon without being able to diagnowe exactly and I cared all of them only with the help of Ayorvedic medicines. I am mentioning these instances only to reinforce my opinion that in point of general efficacy the Aynrvedio system is not behind any other.

On this matter also, I am prepared to answer any specifle questions that may arise or be -pat.
(c) I emphatically hold the view that indigenons systems of treatment are certainly more efficacious in certain conditions than other systems. Some of what are generally considered a the vilest and most obstinate of the diseases to which the human flesh is heir have been proved to be practioally incurable by the Western system of treatment. Rheumatiam, pthysia, athma, leprosy and dropsy to mention only a few of such diseases bave not been treated with any appreciable success by the Western aystem. Bat the physician trained in the pure Ayurveda has been able to effect miraculous cures for all these diseases. If I may be permitted to say so without vanity I have cured radically some cases of rheumatism and dyspepsia which had been given up as incurable by certain Allopathic practitioners of high repute. I am prepared to give out the names if necessary. I have known again of cases of what we (in Ayurveda) call सन्निपातज्वर (typhoid fever in its last stage) which have been cured as if by magio by capable Ayurvedic doctors after Allopathic practitioners had given op the cases as hopeless and as having passed out of haman hands. I may refer also to a now very familiar disesse among childrin of tender years known as (Katti-
) in the stomach. I have yet to know of a case of Katti having been oured by anybody except a follower of the indigenous system. In fact it is now well-known that not a single parent ever consolts an Allopathic practitioner in regard to Katti. That is a significant circumstance to be taken into account in judging of the efficacy or otherwise of the different systems. But perhaps the most eloquent proof of the efficacy of the Ayorvedic system consists in the fact that some of the more succesfal Allopathic medical practitioners of the present day have acquainted themselves with and obtained some Ayurvedic medicines and are treating their patients with them also. Here again I can mention instancea if necessary.
3. (a) No
(b) As centres of medical education the existing institotions are suitable. But they are not adequate for affording medical relief. The number of such institutions has to be convidersbly increased, and it may be necessary also to get as heads of those institutione men of profond learning in the Ayurveda.
(c) My answer to this is in the affirmative.
4. (a) It is no doubt necessary for a proper training in the Aypurveda that students should be placed under the personal guidance of teachers of first-rate ability and recognised standing. But if that condition is fulfilled I don't think the other conditions referred to in (2) and (3) need be insisted upon as a sine qua non.

But if it is possible to folfil these conditions also it will no doubt be a consummation over which we may rejoice, but I will not say they are in any sense indispensable.
(5) I entirely diseent from the view of the Caloutta University Commission. I do not believe that there is anybody truly trained in Ayurvedic system of medicine that desires to come in any touch whatever with ' modern scientific methods'. The combination that is proposed by the Caloutta University Commission will only be a product caloulated to profit neither-at any rate not certainly the Ayurvedio system. The reference to "survivals which cannot stand the test of experiments' is thoughtless verbiage. I challenge anybody to point to any such theory and I shall demonstrate that observations like these are only begotten of ignorance. Time which antiquates antiquity and hath an art to make dust of all things finds and shall find the Ayurveda, unsurpassed and inexpugnable. And all' 'progress of modern science ' has shown but more unmistakably that Ayurveda is a science not for an age but for all time.

6: I do not agree with the views that the ourriculum of stadies of indigenons medicine should include modern science, physics, chemistry, biology, etc. Standard treatises of Ayurveda have devoted large portions to the sabject of physiolegy as also to the subject of sargery. These contain also diagrams particularly of varioas surgical instruments. They contain also minute directions about operations to be performed. What I would suggest is that people who have read Ayarveda and have at the same time passed some Medical examination in the Allopathio system like the Kaviraj's of Calcutta should be employed in these proposed institutions to teach the aforesaid portions. They may do so with the help of modern instruments, beoanse we don't happen to possess any remnants of our own instroments now.
(b) \& (c) The answers to these will be comprised in the answer to the latter part of question 9.
7. I don't think medical registration is necessary. Certificates of having passed the required examination is quite suffioient to meet our purposes.
8. The Allopathio aystem of treatment is oertainly more oostly in all oasses than the indigenous system. The most important reason therefor lies in the faot that even the smallest drug that goes to make up any presoription of an Allopathio praotitioner has to be obtained only from foreign oountries. The cost at whioh it is made available to us necessarily therefore swells high, since it has to inolude the oharges of a costly establishment abroad, the cost of transport and the gain of loosl trader. Then there are the consultation and visiting oharges of the practitioner himself which it is common knowledge are far higher in the case of Allopathic practitioners than in that of Native physioians. Almost all the drugs in the Sanskrit Pharmaoopocia are available in almost any part of the country even if they are not always stooked by the physioian himself.
9. The main oause of delay of the indigenous system of medicine is the laok of adequate encouragement. Here we must go to the root cause of things. It is true that at the present day there is not a suffioient number of people in the land who conld be said to be masters of the Ayurveda system. The decay of Sanskrit learning itself is the primary oause for this state of things. It is not perhaps generally known that it is not possible to acquire a thorough mastery of Ayurveda without a sound knowledge of the Sanskrit language itself. Secondly there are no facilities now existing for the acquisition of the Aypurvedio culture. There are no medical schools or other centres of learning to whioh desiring pupils could resort. Celebrated servants in Benares, and others who are deeply versed in the anoient Ayorveda, or have acquired a working knowledge of Ayurveda, and are oompetent to practise it, do not meet with sufficient support. There are no dispensaries affording relief on indigenons lines. Not merely that, for various reasons-such for instance as the imbuing of western habits and the aping of Western manners consequent upon Western education-these are not able to command anything like a decent practice. Add to these the hidebound restrictions sometimes imposed by the Government suoh as the rule or the praotioe now obtaining of requiring medioal certificates only from Allopathio practitioners of some status, even those who believe in the efficacy of our wreatment find themselves sometimes under the necessity of getting themselves treated by others. Ayorveda could be revived by establishing a large number of sohools for the teaching of Ayorveda throughout the length or breadth of the country by giving a reoognized status to those who come out suocessful from those schools and colleges and by the establishment of large dispensaries in which treatment on the lines of Ayurveda is afforded in almost every centre of the country. First in regard to the schools, those students who possess a certain amount of knowledge in Sanskrit-say for instance, those who have passed the Seromani text of the Madras University-may be admitted. Courses of study intending from 2 to 4 years may be presoribed. At the end of the course or such other intervals as may be fixed, examinations may be held and diplomas or certificates granted. The holders of these diplomas or certificates alone should be allowed to praotise. If neoessary, their soale of fees may be regulated. Medioal certifioates granted by them must be placed on the same footing as the oertificates granted by corresponding Allopathis practitioners.

In at least all important oentres there ahonid be eatablished a Government Ayurredio dispensary to be placed in charge of people qualified as above. In big dictriot orntre like Madura more than one such dispensary may be established. In amaller towne one Ayurvedie dispensary and one Allopathio dispensary may be eatablished. In rural areas either the one or the other acoording to local conditiona may be eatablished.

## There are roughly the broad lines on which a revival conld be worked.

Q.-10. (a) The Government oould start and maintain schools and oolleges for imparting education in Ayurveda, or could give grants to private institutions who may afford facilitice for imparting such education, could recognize the status of people who qualify themselves and could also maintain Ayurvedio dispensaries. Local boards could co-operate with Government in such manner as they are doing now, and could start sohools and dispenasrie themselvea. The Universities may affiliate schools and colleges imparting such education, may frame syllabunem and carricula of studies and hold examinations and grant oertificates. Private individuals and associations could also start diapensaries sud Government or local boards may give nay grante to them.

## M.R.Ry. C. B. NARAYANASWAMI AYYAR Avargal.

Q.-1. I propose to deal with Siddha, nowadars Ayarveda and Western syatems of medioine, from a comparative point of view; mainly with Siddhs medioal acience, seoondarily with A yurveda, lastly with Western medicine and science, from a comparative point of view.
Q.-2. (a) As regards theories of the Siddhaic system this is a very broad queation to be answered abruptly as pithy questions and answers. From the Siddha point of view this in a cosmic affair, covering the Macrocosm and Microcosm which means both Universe and Man from the old point of view of both the old Weatern Mystio system and Indian Siddha rystem. The main underlying first theory of the Siddha school is that there is no inourable diseane onder their category, if the practice of medicine is taken to be as the art of restoring the sick to health. If any disease is brought about on man, it is by his own self-actions (and not by proxies); when it comes to the question of the ailments of the children then only it becomes a side view of proxies as parents and nurses are concerned, and become responeible. As this is brought upon in the middle, after birth and before death, it should be also cured in the middle, provided there is one able enough to cure. It is only the want of men with such knowledge of science and its practical practice with efficacions curea on hand, makes homanity cease to exist. The theories or theory of diseases are asked to be enumprated and substantiated so that modern science can have its own critical tests applied to it. The theories are and were all the same all over the universe, during all times, becanse when oreation evolved out from chaos and from that time man's edition and copyright of man by God has remained and remains all the same always and is yet uncbanged. With the production of man his diseases also have come into existence as human flesh is heir to, as such medioine also hae ever been. The modern man and especially the Westerner, who imagines himself to be the sole repository of all knowledge and civilization that exist in the world, presoming himaelf to be the greatest over all other nations in his impudence and ignorance and arrogating more to himself, assevers that he has been the founder of the aystem of circulation of blood and of animal magneo tism, to himself claims the credit of being the inventor of everything nowadays. The modern Western science looks apon the universe as heing a conglomeration of dead matter, out of which by some anexplicable process life has evolved out in forms, whereas ancient ecience is teaohing on that the universe is a manifestation of universal principle of life acting through the instrumentality of forms. Modern science attempts to prove that, man is a biped animal (I suppose it, includes also him who presumes!) whereas ancient science inculcates that he may become a god (Deva) when such a gulf of difference existe in the notions about himself, the guardians of such a science sitting in judgment over an old seience, 'which is presumed barbarous', thongh the conclusion may be a foregone one of foredoom, inasmuch as everything old is being viewed as such, when public invitation of opinions of various culte is sought after whether with speoiousness or earnestness, we have to subserve homanity when sought for, lest it should beoomes oulpable negligence. Man has got his jada and jeeva sides, meaning his material and apiritual sides; and diseases emanate from both. For instance when madness is being called lunaoy what connexion exists between lana and madness and why there should be more raving during fullmoon days, even though the existence of such a word in the language presumes of such a thing the ignorantly presumptaous modern professors and the scientists would never condescend to pry and probe through, onless it is with his lancet.

[^4]internal functions of the body owing to morbid conditions, (4) by spiritual canses, (5) by aotions of Karmic law. To exemplify the above onder each class respeotively some examples I give below:-
(1) As the universe is man also is, as the final creation of God, i.e, as per the law of evolution of the universe all that exists in the world exists in the man also, i.e., the influence of the Son, Moon, Stars and the Panchabhauthic influences all act upon man. If the natoral influences in nature is good, on man also good influences are produced, and if evil effects are the outcome, i.e., if noxions cosmic emanations are produced in nature by world agencies, they produce noxions affections in man also where if in the sphere of our souls there exist infections germic causes to attract those astroal causes from nature, high sweeping epidemics are produced. To give another example, the influence of the Moon on man, during fallmoon days especially, is greater verging on the side of its bad nature as the magnetic siderial influence on him is acted upon in its developing intensity, is said to develop plague and other acate epidemics. Moon's influence is cold, its influence on the brain of man, which is called the moon's seat in him, is injuriously affected stimulating his sexual passions causing dreams, hallucinations and oravings inordinately during that period, hence the existing word lonaoy found in the language. To go on citing such examples it will be verging upon ancient Vedic and Mystic, Astronomic, Astrology of East and West respectively.
(2) Poisons and Impurities.-The main doctrine under this head is, each oreated thing is in itself perfect and nothing is impare in itself, unless and ontil it is brought in contaot with another, when it becomes poisonoas in nature. The Mother Earth is a huge stomach in whioh every evolved thing is redissolved, digested and transformed and each being draws its own required nourishment from the earth. Each living being requires a particular kind of food and adopted to its species and to its own animal organiam. Animals are endowed with particular instinct and scent, so that it may reject anything which may be injorions to itself, but whereas intellectual man disobeys his natural instinots, he eate and drinks anything to gratify his artificial taste, and as such consumes anything, even a pig which subsits on homan refuse. As long as the human frame is strong enough to expel the absorbed injurions substances by his intemperance, gluttony and his other morbid taste, he seemingly pulls on well, bat with his unnoticed and unfelt serious loss of tissuic and cellular vitality every moment, ontil at last it comes out in some form of disease, when the physique by habitual strain and loss of vitality becomes weakned to expel such accomulated poisons from within his frame. Rhenmatism, gout and dropsy and some other diseases are owing to such accumalations of such onwanted impure things stuffed into the body. Unless these are expelled from the body, by medicines strong enough, when in addition if the system becomes subjected to injorious astral influences in nature, some other diseases of a worse etage are developed.
(3) Diseases arising from the conditions of man's internal nature, i.e., from psychologioal spiritual canses. Herein comes a hard nut to crack for a Western man. As por old science world itself is an emenation from God, i.e., the corporial world is an external expression of the world-of-mind. Each and everything in it represents an idea of Para Brahmam. Bach star is a visible symbol of an oniversal principle or faculty. Man, himself is a cosmos and is the highest of all animal kingdom, i.e., containing the nature of the whole animal oreation within himself, with an additional highest faculty which no other animal is endowed with namely, with the power to attain self-knowledge, i.e., the knowing of God within himself and attain Moksha. The body of the man is his honse. Man is a Sun and a Moon and Stars filled with heaven. And thus man is only a form-manifestation of a universally existing previons state of the universal mind. Individual man is the individualised universe, i.e., having his own heaven within himself, as a part of the heaven of the universe. Every organ in the haman bady is formed by the action of certain nniversal principles, attracting that which is required to its own development from the magnum limbus. "Thas it is said that the heart is in sympathy with the elements of the Son, brain with that of the Moon, gall bladder with that of the Mars, langs with Mercury, liver with Jupiter, kidneys with Venus, spleen with Saturn, eto." (Vide Gnanavetti and Paracelsus ' De Pestilitate). Then to come to the perychological diseases of man onder this head, many diseases are brought about especially by the abuse of his own physiological powers in consequence of which his functionary organs loose their strength and vitality, i.e., the stomach when habitually over-loaded with food brings dyspepsia as in gluttonous gourmands and also when stuffed with irritating poisonous drinks, greater amount of work is thrown upon the stomach and this with the kidneys both beoome inflamed, weak and enlarged by their overwork; in the aame fashion inordinate sensual excesses bring on premature prostration in the frames of both sexes, those organs become paralysed and human nature becomes morbid, bringing in its train diverse diseases. It is only that the highest endowed man that beoomes unnatural to his instinctes to belie his form and oharacter and his maker, though he retains his shape, even after his physics? excesses. As such a doctor (a natural doctor, I mean one who is endowed by nature itself to be a physician) has necessarily to know cosmas and man and their nature to stady, diagnose and administer medicines suited to the malady.

Under this oategory in ancient Indian chemistry Universe is divided into three olasses of (1) minerals, (2) vegetables and (3) animals, all whioh remain true to their nature and their forms indicate their oharacter. And minerals are divided into 212 thinga. From these vegetables beoome evolved under six olasses of tastes and of 3,300 genera. Man's ailments under all the above five divisions have been compated to be 4,448 in all. Animal became evolved and man
stande the highest as said above among the whole croation, containiag within himeolf the whole nniverse and the firmanent above, and the creations below him. To out him right from his ailmente onder the above five subdivisiona (of which two more will be discused brlow) merdinines by minerale and vegetablea both combined together or 8 separate have bren formulated to promiuro a cure and a permanent cure. In the firmament above great many are thr atars whirh rxert ite influence on the organism of man and plants brlow. The plante aitiract the powere of the atara to which they are aympathetically allied. Moon is called in Vedas as Oshadhimmm Pathi. Nuch astrally influenced plants are being utilized by an Aurvedi to heel a man of his malady. By a judicious use of plants its beneficial astral activities may be attracted and civil resulta priduecd by man's intemperauce in habits may be counterbalanced and neutraliaed, and his bondy may become once more resuscitated. Under the Agasthya system of chemical merdinines threre in a unique feature ordained to be observed in gathering and extracting the plante fresh, when their occult properties are at the highest, at a certain time of the day or night, during certain planetary conjunctions, which is not being observed nowadays by any. In the braling art it is the action of the astral influence of plants to be observed, so that it may act a nuprome beurficind influence on the astral side of man.
(4) Diseases arising from our thoughts are from spiritual causers. This elass includes all diseases induced and caused by evil wills, from passions, disordered thoughta, and morbid imaginations. These psycological states by their physiological aations and rractiona induce physical results, such as shame producing bluah, terror palenese, fear causing diarrhcea, anger and envy jaundice, meloncholy obstructions, violent emotions miscarriage and malformation of fartua and hysteria in the other sex, apoplexy and spasms in all. (Note the mraniug in the word, apasmara roga.) -
(5) Diseases under Karmio law.-All diseases under this head are the effects of pruviously existing oauses, some originating from natural and some from spiritual oanses. For snch oassa remedy lies in time alone, until the evil force, stellar and natural is exhausted and the law of oniversal justice is astisfied. $\boldsymbol{N} \cdot \boldsymbol{B}$.-The anthorities desire that the abore theorive should stand the test of modern scientific criticism. What is modern science ? It is that which deolaren, that man is an animal, and the nuiverse is a nebule, or a oonglomeration of dead matter, ont of which by some unexplicable process life has evolved in so many forms. Ancient Indian Mystio Siddha soience deolares that the universe is a manifestation of a univrraal principle of life which pervades all over, aoting all through the instrumentality of forms, and that there is no dead matter in the universe, and that which dies returns again into the matrix of nature, to be reborn into other forms, to serve again as an instrument for manif cstation of life, and that tho wan is the nearest approach to God. Modern Western medicine knows only the dead boxly of man and not the living image presented by nature. And their medical art is bnaed upon thrir own fanoies and speoulations which they imagine to be acience. Modern soipnce knows more about the supericiality of thinge, of steam engines and other modern inventions, and anoinnt philos 3phers knew more abont the powers that move the world and of communication of thought at a distance without the employment of any visible means whioh is 'Thought ourrent'. Modern science invests man with power to lift his own weight whereas anoient ssienoe investa hin with power to control the destiny of the world. Modern science allowd man to live for a limited number of years and ancient science teaohes that he has existed and will never orase to exist if he desires to live. Ancient soience deals with internal living deified man and modern Western acience deals with external constitution, form and dead body of man. Western chemistry deale with physical matter, ancient chemistry in addition to this, with the spiritual and astral aiden and principles of the same. Modern chemistry decomposes and reoombines material anbatances in oertain proportions, saying that it purifies simple matters of all foreign elements, leaving primitive elements unchanged, and ancient chemistry deals with sabstances created and produord as they are by God and Nature, changes the character and raises them np into higher states of pxistenoes; that is Western chemistry is a destractive acience dealing with chemical combination, separation, and recombination of physioal sabytances, whereas ancient chemistry deals with ths parifioation and combination of astral elements and with the development of lower forms and lower states into higher onoes, thereby by the former its original innate state is not changrd whereas by the latter we raise its innate lower state and charaoteristica into a higher and purer developed state. When such a acience which is destructive and defective in iteelf and men who ever and anon brag and pride that they are yet improving, which undoubtedly implies its own defeots, when it sits on judgment and in judging over a science which has delimited the limit of its own extreme limit, as an organised and protected conclave, the decision of the foregone judg. ment is patent, because their ignorance of an astral and spiritual side of oreated things is far distant and makes them biassed to the extreme extent to disard anything which thry do not know and which they are also determined not to know. A nation which is very niggardly endowed with spiritualistic side of man and matter cannot bat throw out as a dreamy side of the affair, because it will not put in jingling pelf into their pockets as quite materialists which we see everyday of them, not given to improving themselves thongh they are in the midot of a dreamy nation for the last 150 years.
Q. 2. (b) Principles and methods of diagnosis followed in the Siddha aystem is as follows :-
(1) We have to take the statements regarding the history of the case and his complaints from the patient's moath or from his people who attend on him, and to feel and study the actions and gaits (gathi) pertaining to the functions of Vatha, Pitha and Sleshma, and have the common arinary test-also done (not the test of analysis of western mode) as is being nowadays observed
by some renowned men of Ayturvedism and Unani practitioners of dripping a few drops of oil over Thot urine passed just then during examination time. The first and last test is all a simple mechanioal one. But the second, of observing and studying through the aortic pulse the vatha, pitha, sleshma gatis from the mere reflected and conducted lnb-dub sounds of the western physiologiste of the circulatory system of blood in the frame, and from that stady to fix the patient's complaints is the hardest nut to orack to the manufactured dootors of medicine as per medical -educationary curriculum. First of all what these words are and what do they connote and what we do as per the import, of this pathologioal mode, is given below. Evidently these words are from Sanskrit, meaning air, bile and phlegm. The sense and import of these words cannot be understood by laymen unless they have the knowledge and education of world old science of man, his sonl and spirit in his both materialistic and spiritualistic sides. In Ayurvedism these are called Thri-doshas. In the Siddha cult these come under the heading of Thathwoas, meaning doings and functions of the system. Ordinarily there are 64 functions of the system and by the system, under the former class of an abstract kind of the Karanadis by Karuvies of man, (i.e.), functions by the organs internal and spiritual and spiritually internal. Normally we inhale and exhale. The inhaled air after it is contained still in their receptacles the lungs, when it flows in, joins, mingles, and intermingles, inside the system, produces heat and fire and overheat in the body and when the whole is regulated evenly this function is called the Vatha (i.e.), the process of oxidation is being maintained in a normal state all over. This is called the Vatha Thathwa.

The Pitha Thathwa means, when the bile mingles with the heat in the body and the oxygenic Prana Vayu runs direct throughout the syatem oommingled with this, into the tissuies and oells, the increasing heat and overheat prodnoed is being regulated to a normality all over the frame, by disallowing the abnormality of oxidation if anywhere localized; this is called the funotion of Pitha.

Sleshma is the function when the biliary matter and fire after the above two functions are fulfilled, comminglingly joins the residual water stagnated in the vascular system and becomes assimilated and one with (i.e.), when the perspiratory secretion cannot be expelled out, and when all these three together produces abnormality in the regulatory system produces an ailment long or large in either receptaculary lungs and vescicles, this function is oalled the Sleshma. And the effect of this is the production or secretion of phlegm. When these ordinary functions become upset it is oalled to attain the Dosha (upset) stage and the Ayurvedies call these safely by the name of Thri-doshas. This is no confounding humoural pathology of the Greeks. As far as I am aware, neither the Sanskrit medical treatises nor the A yurvedic literature have explained these Thatwas in such vivid language as normaling functions of oxidation and regulation. When Maha Mahopadhyaya Gananatha Sen of Caloutta Aynrvedio fame has been lecturing in 1916 before the Hindu University of Benares has not explained these functions as funotions but has been giving the effeots produced by these functions under doshas.

In the same question about the modes of treatment also is asked. This is also a very broad -question. To be brief there are two systems (1) Siddhaic and (2) Ayurvedic.

## Siddhaic System.

This is oalled the Agasthya system, (i.e.) in this, medioines are prepared from out of the mineral substances which are 212 in number, having salt as its basis, Rasa, Gandhaka, Pashanas, as ingredients for the mineral and metallurgical medicines. Universe is divided into three classes of Dhata, Mula and Jeeva. Eaoh of these main divisions is divided into six subdivisions whioh .are, viz. :-

Dhatu-
(i) Salte with 25 subdivisions.
(ii) Uparasas into 112.
(iii) Pashanas into 64.
(iv) Metals 9 , nain 5 ; compounds 4.
(v) Rasa-Meroury. The king of minerals.
(vi) Gandhaka-Sulphur queen do.

Mula-Divided into six classes under six tastes of saits, astringents, pungents, bitters, sours and sweets; with various degrees of atrength from 1 to 1,008 degrees under each of the six kinds of natural growth, viz., trees, shrubs, creepers, juioy, and juiceless and milk giving plants computed at, in all of 3,300 genera botanically.

Jeeva-Divided into six classes as per generative receptacular and procreative organs. The above 212 minerals are classified under-
(i) Friendly and antithetioal substances (sathru and mithru).
(ii) Male and female order (Sakti Siva or Nada Bindu) class of things.
(iii) Salt and sour olasses of materials, and of
(iv) Panoha Bhauthica systems of Earth, Water, Fire, Air and Ether.

In all the above, the innate quality and oharacteristios of each of the six classes have to be transformed into that of having another quality and nature. For instance salt is a material Which is soluble in water and volatile in fire, has to be ohanged to melt in fire and nonsoluble in water. In the same fashion the nature of pashana which will waste in fire and not soluble in water has to e transformed to withstand fire and soluble in water. Uparasa whioh is
neither warting in fire nor coluble in water has to be totally changed we that of a melt olece of material. This procese of transforming is oalled as that of binding. After that of hinding thees materiala will be tarned into that of a Bhasms, Sunna, or Sindhnra, to be administered an medicines for various maladies. The vegetable kingdom is useful in this course and procemen per the nature and class of medioine we want. In cbanging the birth innate nature of materiale wo transform these into a substance acquiring higher natore and potential and baving the property and quality of becoming assimilable in the very tissues of the body. The oompositione and component ingredients of the medicine is also made under Rathra, Mithru, Panoha Bhautic, Bindhu, Nada orders above mentioned. Mentioning the whole of the medicinal aystem th only a thanklea job. Because a nation which is afraid of mereury as a nightmare, simply because they cannot either bind it to withstand the test of fire and melt it, like any metal, nor alkalise or tam it into a simple black or red sulphide in combination with sulphur, which even a ponr barber-phyeician among us is aware of, to avoid mercurial poisioning, is going to sit on judgment over a mighty science. We will leave the $W$ esterner who is here in our midet to earn the maximum amount of money within the minimum of time at his command by a roaring practice, but our kith nid kin who has been manufactured and trumpeted into a great medical man (in bis own eyes) with his half-starving education and smattering knowledge of the seme deatructive ecienne is the ranoourous renegade and is the bitterest enemy to the scienoe itself who is prepared to deter any attempt to improve by his own people. Pity, the defect does not lie in the dootors, but in the very system of pharmacy at the root of which the modern science of Chemistrý lies. Because in the analytic science when a certain thing is put in an acid certain ingrediente are turned out na gaseons matter by chemical aotion, and there is recombination of certain materiala ae reaidue with scme of the ingredients of the administered acid, which is a patent fact, of which it ia not that the Westerner is not aware of, and hence his trials to protect his science, himself, and his profession with and by so many of the hage powerful organizations, to impose upon and smash poor half-starved organizationless niggardly beggars with their so many aets of legislature thrunt apon. And it is only a weak man who wants protection and that of the higheat as dofective and improving one.

## Ayurvedism.

This is a word of very broad sense. Old chemistry of the Indian Siddha School of A gasthya, Nagurjuna, Pathanjali, etc., has been all along so many ages of the world a guarded and protected science kept as an holy art in varions Astamas of Rishies, becanse it was useful for them, (i) to keep themselves a proof against diseases, (ii) to prolong their lives (to any period they liked), (iii) to make their bodies (Jadas) ever existent, i.e., until the time they wanted to have, like their own souls, and (iv) to keep themselves above wants. This is the old Western Mysticism which is not understood by the whole Western oontinents just now, with the exception of few like Dr. Franz Heartman of Earope and Spence Lonie, the President of the American Rosieracian Society of United States of America. That is, it evidently borders on ancient Alchemy, which is an exploded science in the West. (So far safe, because these myatics save themselves.) Again, to go to the root of this, it goes to the hidden portion of the whole coience, i.e., the Philosopher's Stone which is the 'Despised Stone'. It had and it has necesearily to be protected from the purview of the layman, becanse hyman society would oease to exist by wars because pelf entices any to become greedy. The Vedas and any Soripture gives evidences of these, becanse this has become the sole secret of a few, always all over the world, who would not freely divalge the secret, unless to the chosen initiates. For example, the Deva Asura wars of India and of the driving of the Iaraelites from Palestine making the whole $\mathrm{J}_{\text {ew }}$ for their richee from Abraham's time as homeless even up to now. With exense for the digression above, in the absence and want of this secret knowledge, our old benign lay forefathers have devised the system of Ay urveda, as a system to heal, and heal alone, the various maladies of human kind, making medicines by a combination of mineralogy, and taking a greater portion of biological knowledge and materials divided under the above headinge of Panoha Bhauthica and Sathra Mithra Sammelana. Hence it is to the credit of Ayurvedi to care very many chronic cases given up by western gaardians of medicine. To the modification of the jadges in the committee I give below some quotations of Paracelsus towards modern Western science and medicine, who is called by some, as the father of the present-day science. It may be true in the sense he gave an impetus to its development on the wrong destructive side. There is an instance in our Poranas, for instance, the great real Reformer of nowadays Hindu society, viz., the illustrious Vyasa, has made himself a Chirunjeevi (long-living man) and has kept the whole Hindu world by his lore to die of want and sickness, by giving fascinating and engrosing allegorical stories of old, making man to forget great scientifio truth and engulf himself in wild imaginings alone. Such was Paracelsns also who was scoffed at by the ignorant, his repatation torn by the doge of envy and hate doring the time be lived and was murdered for his honest outpourings which were mistaken for vituperations. He says: "You have entirely deserted the path indicated by nature and built up an artificial system which is fit for nothing, but to gwindle the public and to prey upon the pockets of the sick. Your safety is due to the fact that your gibberish is onintelligible to the pablic, who fancy that it must have a meaning and the consequence is that no one can oome near you withoot being cheated. . You live npon imposture and the aid and abetment of legal profession enables you to carry on your impostures and to evade panishment by law. All your boasted science is nothing but an invention to cheat and deceive. The pity of it is it is being protected by the anthorities of the State. A physician who knows nothing :
of the inner astral man and innermost centre or sonl, with the external phyeical body, hence with no spiritual power in himself, can be nothing else but an ignoramns and quack, even though he might have himself studied all medical books and graduated in all the medical colleges. His boasted science is nothing but an invention to cheat and deceive . . It is nesless and dangerous to make a medical practitioner out of a person who is not a physioian at heart. Ancient medicine rests upon four pillars: (i) a knowledge of physical nature, (ii) a knowledge of the powers of the mind, (iii) a knowledge of the divine powers in man and (iv) upon the personal virtue or holiness of the physician... They only know the dead body of man but not the internal man. Their art is based upon their own fanoies and speculations. A real physioian is a product of nature, neither Emperors nor Popes nor colleges and schools can oreate physicians, but they can confer privileges and can give permission to kill . . . . It is a divine art which cannot be prostituted for base purposes . . Modern science almost knows nothing about the cause of the actions of medicines and for this reason the use of herbs and roots have been almost abandoned The quack studies diseases in the affected portions The presence of an ignorant and greedy doctor is a curse to all and a public oalamity."

## Chemical Siddha treatment.

The treatment followed in Siddha system as explained above, is by simple single mineral substances, singled out from out of the 212 substances, each transformed into Bhasma, Bunna or Sindhura keeping a Lahiya or Chorna from out of the materials of the vegetable kingdom, composed of roots,-saps, juices, seeds, milks, gums, etc.s, all prepared under the syatem above described.

## Ayurvedic treatment.

The Ayurvedi in the absence of the knowledge of binding the mineral substances for which the Philosopher's Stone called 'Muppr' is indispensably needed to withstand calorific powor and taking the biological science as his basis and mixing if necessary as one of the ingredients to hiss medicine some mineral or other in the swooned stage such as by roasting, frying, etc., on amall degrees of heat such as it is in the sand bath process of Western pharmacy, mixing both in a more or less raw state he manufactures his medicines and administers. Under this oategory there are medicines for all the various four classes of diseases with the exception of Karmioaffections. Nowadays these have also eanght the stamina of parading in their publio advertisements to say that the ingredients in their medicines does not oonsist of either Rasa, Gandhaka or Pashana, from the Western system, of which both these are terribly afraid even to touch or approach. In the Weatern system as said above the ahief volatile nature of medicinal minerals are driven off and out as gaseons matter, to whioh many new names are being coined, by the ohemical aotion of aoids, and new ingredients of other substances treated in the same fashion are added, componnded and administered. On what basis and theory and principles of science, of the humanity in connexion with the physico-chemical aotion and reaction of his medicines on man, on his physioal, and psychological sides, is not knownito the manufactured doctor. This physiological chemistry is said to be known to few only in Germany and America as accepted by the Westerners themselves. And the only thing the forte and glory of westers medicine is that it is made an assimilable thing in the body within a few rounds of the oiroulation of blood in the frame, as all medicines are made soloble matters in God's aqua, a fortiori, by action of gastric juice in him and the effect either for good or bad becomea perceptible on the patient within half of an hour or so, but no radical oure for any of the chronic cases, because the Ekasic and Vayu amsaa which are the vital elements of manifested life itself are driven away and becomes lost in the medicines. This is the scientific view of the old mystio sohools all over the ancient world (vide Sankhya system of Philosophy and Torba Philosophorom) with scientific facts and truths as science I have dealt with in the above. If figures are wanted wo have to work it out and prove by demonstration by taking half a dozen oases of some of the incurable chronic oases and have them proved to satisfaction of some unbiased judges, and that I am prepared to do.
Q. 3. (a) I am myself a practising man in a very small scale only, not followed as a profession, but giving relief only to those who seek my•aid. I am not conneoted with any inetitution whatever.
(b) I have seen only two such institutions, viz., Venkataramana dispensary, and Kannan Chettiyar's at Triplicane. I leave the ather questions to be answered by people who know better than myselt, in the following affairs.

## Enclosurb

## Ancient Indian Chemistry and Alchamy, as gloaned and collated from the Chemico-Phiosophical system of the Indian Siddhas,

## Preface.

Thare have been and there are many, among Enaropeans and Indians, illostratious and otherwise, who have zealously worked and ransacked in the many departments of the ancient knowledge of the Indians. Their labours have thrown ample light on the ancient Indian literature, on very many subjects, to be far advanced, but the two branches very muoh negleoted, vis., Chemistry and Medicine. To say, in the words of Dr. Praphulla Chandra Ray, that investigating in these subjects has hitherto repelled is quite below the mark, but it has aimply baffed
the attempts of many mater intellecta and erudite men owing to the oomplaz nature of the cabject, and as being conched in hidden langaages nnapoken juat now, in all its teebnical and toabnological details, much more it is to inveatigate. Suah knowledge and litemture is anettend in very many Indian tongues. And in none bot one of these main langnagee and in zome dialects is it handled and handed down to os, in ita mocinct acientifio fashion in the 8outho Indian independent Tamil tongue. When I any this to the surprise of many a Brahmin, I humbly solicit to be excused by the admirers of Banskrit who are too many. The ancient Tamil authors, three illustrious among them, viz., Maharishia (Sattainatha, Bhoga, and Konkana), who bave left complete recorda after the comparative atudy of both Enuskrit and Tamil, any in their writings in Tamil, that the authors in Banskrit have written in very abstruse diotion highly -delosive so that neither head nor tail could be made out of their chaotic litemare. Unleme wo are initiated and trained in their trammele, it is quite impossible to dive to the bottom even by a practical initiate unless he is an adept. The eager and earnest desire of the late Monsieur Berthelot, the jllustrions French aavant and the doyen of the Chemical world of the Wrat. can be amply satisfied if he is now with us to review, if not to incorporate with his ' History of the Chemistry of the Middle Ages in Earope', which I present the world with just now, what I haro unearthed, nuravelled, and collated as below after my atndy and practical reaparch in chemintry for the last 26 years, to present the Chemical section of the Human sooiety, to their wonder and astonishment, of the ancient Indians' advanced soientifio systematio knowiedge in the synthatio Chemistry of the Siddha Sohool rather 'Indian Mystic achool' whioh is being very much mistaken very irreverently by the half-starved Indian himself whom they call Pasu.

The internal evidence of the literature showe that they were written and composed at a time when the Godhead of the composite Universe, called Bhavanas, was, the Para, or Parapara, the Sho-element of the Universal Para-Brahmam, anterior to the male element of the anme ParaBrahmam under Saivism or the later Vaishnavism has become established, and that it was the Patriarchal religion of the Universe as peculiarly defined and understood by them in their own times, which differs no doubt from that which prevailed in the weatern portions of Asia, which can be traced and proved to have existed from all the ancient Chaldean, Egyptian, Armenian, Assyrian, Arabian, Chinese, and Japanese literatures. It talks of a Government rather Prinoipalities which were Pro-liepublician in spirit, under the great Patriarchs, who were aslled in India Maharishis, Gothrakaries, and Matathipathies, in the Indian tonguee. I may humbly olaim, on behalf of this now more or less defunct school, that this Cbemico-Philosophioal literature shonld be said to be the mystio fonntain-head of all the later-day six Indian; and of the four Grecina sohools of Philosophy, and of the religious Philosophies of the new teohnical systems of Dwits, Adwita and Vishishta-Dwita, subtle and controversial in words which seem to be overgrowths only of long ages to prove the Unity of God. In their books they allade to the two sohools only which existed contemporaneously, viz., (1) Adwoita Gnana sohool of the Saras, (2) Dwita Siddha Scientific Rakshasa (रक्षस) school, and to the six religions which existed within their own country, viz., Saktha, Sowra, Ganapathya, Saiva, Vaishnava, and Bowddha, and to the other six religione systems outside their own continent.

Coming to the purtion of Science proper, all the old Sages have divided the subject into 18 Tranches, by the names of Limbs or Angas of Chemistry and Alchemy as nuder:-


Under these heads from the Presidential Aghasthya down to many of the numberless Siddhas have dealt with very ably and conclusively; Konkana says that he has dealt with under 19 Angas or Heads and Sattalnatha Mahamoni nuder 21 Angas. Two among them, Bhoga and Sattainatha have left keys to their literature as a clue to their cult with philanthropic motivee so that men and the oreation may outlive like themselves and attain the beatific end. Why the scientific portion, especially Chemistry, should be incladed among the philosophical systeme and the bearing which this has to it will be aeen later on in the Introdnotion. This science was called in Sanskrit, in ancient daya, as "Chamikara Vidya, Vada, Rasa Vads and Hema Vidya", all with different import and meaning. The word Chamikara might have given the origin to the Arab to derive his word Chimiva (Kimiza).

## Introduction.

In dealing with this comprehensive subject of the anoient sgnthetic Chemico-Philosophioal raystem, one has to handle four different divisions of the same subject, not only allioed to but alao commingled and intermingled with each other, viz., (1) Vada, (Alchemy), (2). Vaidys: (Medioine), (3) Wisdom (Gnana), (4) Yoga.

In anoient India this knowledge of the soience, the first two branches, have been made a necessary handmaid of the latter two. All the South-Indian authors have all, in unison, subjected Alchemy to be so blended and interwoven together, as it was to attain a certain end and aim of theira, that is Moksha, which means literally Liberation, derivatively, Salvation, to be attained in the life-time of one's own living period with consciousness in himself, and not after death as it is now understood generally, which is the Anandamaya stage of the Yogi, or the inertness in the activity of the life of the Gnani, and the Nirvana of the Buddhist.

Firstly, as to its language and style they are all written in easy fluent colloquial spoken language, rhetorically not hard but in long metres: And these are said to have been composed after they have attained their final beatitude stage as said above, within their existence of the first 120 years. The popalar notion of imputing that they were written in abstrusee enigmatio language and fashion is simply incorrect because we have to remember that their language is too colloquial and the sense, import, and connotation of their signifioantly pregnant words have beoome ohanged in meaning in our own times, and there is no study of words written then or now. The language is said to be hidden beeause we have neither their training nor their depth of knowledge as understood by them in that partioular branch nor have we the patience to work indefatigably to fathom the deep sense imbedded in words which some novitiates among them have remarked as the "heartless language of the Siddhas." Before going into the subjeot I have to explain the bearing of the one on the other and to the following three :-(1) Vada or Alohemy is that portion of that Chemistry which deals and treats of transforming in clear lucid fashion in all its varied branches of changing baser metals to higher by minerals, vegetables and by animals. (2) Vaidya is that of medioine by Chemistry for the ailments of man. (3) Gnana is the study of the nature, of matter, and sonl, and of man and human society and the scientific modulation of man with Universal God. And Yoga is the practice of Brhma Vidya or Raja Yoga to attain the summom bonum of their ambition, Moksha, which means transforming themselves both physically and spiritually.

By keeping this final end of theirs in view we can best understand them, whioh is to give the gist in a nutshell, they have classified the ills and diseases of the human kind to be 4,448 in all. For these variant maladies to whioh man's flesh is heir to, about which it will be dealt with under the head of medicine, the remedies have been devised and manufaotured whioh are very effectual oures and further preventives and to sustain the homan frame as long as they wanted. They as a first step effeoted this and made themselvea a proof against diseases and not afraid of death under this head. Secondly, they fortified their physique against the ravages of old age by the extra proof of strong Chemico-Metallargical medicines and thus I knitted and unified the soul and matter ${ }^{4}$ together and thus extended their long lease of life, to study man, oreation and Universe stage by stage and to attaic their final stage of beatitude of self-realization by their simultaneously practising Prana-yama. For all the above, they have classified Vada and Vaidya under the head of Hema-Vidya, Gnana and Yoga under the head Brahma-Vidya. The latter means a tranquil pensive work which also means expensive course. For all this knowledge of one's own transforming to be attained by any ambitious soul to undergo the whole course, that is, to maintain and sustain oneself to this end, Alohemy which was a necessary corrollary in the course itself has been devised and perfected to help with such things as a subservient or basic knowledge to their ultimate end. The whole literature of this school of men, has been written after their aim has been achieved from that mental plane in the language of that particular sohool as it was at that particular period of the world's age. And they are acoused uncharitably by us through our ignorance of their environmente and comparing this with the present common knowledge of worldly materialistio nature of worldly things, they can be excused of their seemingly selfish nature which is unseemly presumed toy us.

The olassification of this Sohool of the Universe is as follows :-
(1) Dhatu, Mineral Kingdom.
(2) Mula, Vegetable Kingdom,
(3) Jeeva, Animal Kingdom,

The one evolving from the next lower from Mahath and not the reverse order as is taken to be by the new-fledged scientists. Again, each of the above three olasses are sub-divided into sir -divisions each, which are again sub-divided as said under, viz.-

Dhata into-
(1) Salts, of which there are 25 ;
(2) Pashapas or Arsenics, into 64 ;
(3) Uparasas or Silicates and others, into 112 ;
(4) Metals or Lohas into 9.
(6) Meroury or Rasa, the King of the minerala;
(6) Bulphur or Gandhaka, Queen of the minerale.
(b) Mula or the vegetables into cix classes, ae per the natural tastes, of which there are six in number-8alts, pungents, astringente, saccharines, bitters, mours. Plante may bare one on more, or a combination of some of the above tastes in various degreca, each ranging from 1 to 1,008 degrees in their intensity.
(c) Animal kingdom, subdivided into aix olasses as por their originating aeeds and germinating facalties. These are the ever-present and ever-lasting 18 thinge in thin known Univeres as long as it exists whioh is being misapplied and mis-atated in many weys as it anita the fanoy of any amatterer.

## Dhatu (Mineral).

The Universe is composed of five primordial elements of Earth, Water, Fire, Air and Ether. They have taken ealt as the basis of the earth and creation and as the earthcrust formation of the Universe, and they first chemically treat the same to stand the test of fire to be melt as any metal and then altalize the same. Their test and mode of testing all the different minernla was by natural agencies alone of water and fire and not by aoids got of salts and sulphur as it is in modern analytic, rather destructive soience, viz., (1) Salt is that which is solubie in water and volatile in fire, having at the same time the innate nature of burating, smoking and burning ; (2) Pashana is that which smokes in fire and non-soluble in water; (3) Uparase is that whioh is neither soluble in water nor smoking, volatilizing, nor burning in fire; (4) Metals are those which melt in fire and last fixed, and insoluble in water; (5) Meroury is that whioh ia being atomised and vaponrised in the amallest degree of fire and non-soluble in water and said to possess also seven kinds of epithelial like drosey matter covering its molecules, and of 40 kinde of powers latent in it, is called the King of Minerals with manly procreative powers in itself. (6) Sulphar is that which smokes, burns, and volatilizes in fire and insoluble in water is the female sustaining productive element is called the Queen of Minerale.

By changing and transforming the inherent oreated nature in each and by making the things to acquire a developed power higher than its already innate power, the properties of the things are transformed from one $t$ the other. This was their aim chemically and the altimate end is to alkalise all the abovesaid 212 thinge of the Universe. The reason why they should do this is first to make the things assimilable in the homan syatem by the digestive prosess for which everything has to be made soluble to which they are reduoed to, to aseimilate them in the physique with which we are born as perishables and to make them last and last longer and impregnable to diseases and indestructive against the ravages of age, as the physique is the repository of the evanascent sonl.

## Mula (Tegetables).

The vegetable kingdom which evolves out of the mineral kingdom is divided into six olassea of trees, shrubs, creepers, milk-giving, juicy and juiceless plants, whether having one or more or s combination of more than two tastes have been classified under 8,000 Genera, of from 1 to 1,008 degrees under each taste.

## Jees (Animals).

Animal kingdom, from ant and flea, (the amallest) npwards to elephant and whale are olassified under $84,00,000$ species generated under forr kinds of generative receptacular femslo organs and under six classes of procreative seedly elements of the male kind. Out of all the creation man is the highest evolved and fully developed being out of the above two kingdoma with all the senses and faculties, holding the essence or the prototype of the Universal God within himself, and capable of self-realising the same for himself and to onderstand the existence of the higher life of the Greater Boal of the Universe, Paramathma, though the materialist may call this the dreamy spirituality of the Orient. As such the whole Universe which emanated from the very thinking of the Para-Brahmam is a full and a whole life-matter and not a nebula as supposed by the scientist of the Western destructive science.

The principle of evolution of Godly Man from the infinitesimal seed in the embrio to the adolesoence, man, and GodIy-developed man after the Universal model is described soientiffcally, clearly in this literature of Indian mystics; by way of exemplifying the Vedic prinoiples, (1) "that if one was born he shoald not die, and before he dies he should not take birth once more," as also "Athmavai Puthra Namasi", i.e., oneself becomes nnder the name of son. For this dictum to be understood, we have to take ourselves to the pre-Buddhistic eras or Thanthrio ages of homan thought, rather to times anterior to the Karma doctrine which was established on Karma basis by Bhaddhas themselves and there were 24 such Bhaddhas before the last Gouthoma Bhuddah, it is said. Corroborating this dictum, we see from the internal evidence of the Christian Scripture that God has ordained us not to taste the forbidden fruit; though it may be taken and understood by the eradite many in very many ways, yet as a religionsly dying Hindu I take it in the old mystic Siddha gense that we shonld not be dreaming, soaring, and drowning ourselves in the Edenic Garden of Women. By this our physical frame is exhausted of the vital fluid which is wasted and we become decrepits and prematurely old even within half the period o man's apan of the vedic time age of hondred years. If we roam or taste as against this beget ohildren by planting the seed of man in the womanly soil, we are said to be born once more ona kshetra. This must have been the primitive idea of re-birth of man in the Vedas which is :
being interpreted in diverse ways as per the notions of each religious interpreter to suit his own strain and whim and his school of thought. The whole Siddhe religion was the religion of the intelligent few or the religion of the cultured few only, in each nation among many nations of many millions in each. And sach broken-down constitation have to be resusciatated and re-boilt: if a man aspires to become an adept Siddha. The word "Siddha" means ever sure and trae, ever ready and ever lasting derivatively. To fortify the body as the container of the sonl, whioh could not last and could not be seen withoat it, once broken down, to extend the life with no fear of death either by disease or old age or destruction by the five natarsl elements or agenoies; the Siddha has perfected the anoient Pharmacopcoia, Chemistry, and Metallurgical medicines, and alchemy to his own needs and wants in his aims to attain and achieve his beatifis end. The elaborate course of Kaya-siddhi, (Kaya means body, Siddhi means making sure), had to be undergone by an ambitious soul for twelve years or two oyoles of six years each within which period not only the tisstes with which we are born from the mothers ${ }^{2}$ wombs are being changed but also the very nerves are transformed tendinous and the bones converted and fossilized like ivory for which or within which time the haman frame is turned out into mercurial bodies by the chemicometallurgical medicines, indestractible by the five bhathas of earth, water, etc., as a finis. To attain all these potential powers with the double-fold object as follows, they have taken meroury, which is the king of the mineral kingdom called otherwise Rasa, the essence or Harabhindu, the essence of the semen of Hara, who is the presiding deity among the Trinity of functionary deitiea of the nniverse which was taken to be of the order of male procreative agenoy, treated the same, changed the inherent nature in it, to stand the test of fire and melt it like a metal, and alkalize, the same to beoome assimilated into very tissues like salt, to enter and permeate into the very human cellular syystem. To exemplify whether this would change the body or not, the same on being administered to a baser metal melt in fire, should change the same to a higher and finer one or convert or transform into the superior metals of gold or silver. This was the theory and practioe. Now, we can realize why this was called the science of Rasavada and why this has been kept a profound secret by all the mystics of the different nations of the earth, under different names in each country, by even the modern Rosicrucians.

The science of making gold or alchemy was promulgated to enable the ambitions soul who was called a Rishi to sustain himself and maintain his followers, retained for his own convenience, so that he may not beg, rather not waste his time in begging of men for his sustenance and support but utilize his time in the all-absorbing stady of matter, soul, and oniverse.

To achieve this end many chemical philosophers who are called adept Siddhas have worked in Chemistry in diverse ways to the self-same goal, which is ohiefly as follows:-In the following order, rising step by step from the next lower to the higher; namely, salt, calomel, talc or yellow arsenic, plumbago or graphite, makshikum or pyrite, (gold and copper), navaksharam or sulphate of ammonia, copper sulphate, gold, and, lastly, mercury, bind each in the order said above, rather transform its innate nature and alkalize each into canstic lime so that it may change mercury to their double-fold object of changing both metal and body; and they have risen in making such medicines higher in potentiality, utility and intensity in its transforming power of one in ten, hundred, thousand, ten thonsand, and so on until they made Spersa-vedi and Nada-vedi, which means that which changes by mere touch and sound respectively. And by assimilating such medicines in their physiques of transforming power internally, they were able to transform, by their mere command of breath and word. This was called their Sapa-Anagraha Sakti at which we may laugh as incredible in our grossest ignorance.

The other atility of binding the Rasa or mereary was towards their self-realizing end. It is thus performed. Firstly, by turning the unstable meroury into mobile viscid batter, then intoimmobile solid substance, melting the same and then adding by one after the other the essences, rather extracts in shape of metals taken out from each of the 211 things or substances of the mineral class, and then by the process of chemical reaction to liberate the same keeping to the original weight of mercury itsolf by reactionary agents. To oreate higher power and potential in the same was by repeating the above process of assimilation and liberation which was called the process of Jarana in Sanskrit and Saranai in Tamil. Repeating this a given number of times, as prescribed by them in their literature in this way, they are raising the potent powers of meroury. Then, lastly, they add equal amount of transformed gold, i e., gold itself converted to aoquire the colour of the evening refulgent sun, whioh is given the technical name of goldcopper, and an equal amount of organic copper extracted from out of the insect or worm by the name of Bhoonaga, which, they say, takes its birth in and from lightning. This was called Rasa-Gulika or merourial phallus, which they preserved with exceeding care like themselves with highest regard and sanctimony. Various Rishis, some of them, made only two and great many three of these phalli, one to be tied in the hand as positive pole and the other to be kept in the mouth as negative pole and the third to be tied in the waist, as support if any differential potency is produced, to help the Siddha in concentrating the monkey-like restless mind, rouse up, the Kundalini, from Muladhara through the Shadathara Chakras to Sahasrara Chakre until the internal vision becomes radiant as refulgent as thousand suns put together, make the whole bodyitself enmeshed and engulfed in this non-scorching fire, lit ablaze round the physique itself; this was called the practioe of Smadhi. This led him to the final beatitude of realizing and centering himself in this internal vision, which is said to be the final Anandamaya stage of becoming one with Sat-Chit-Ananda-Siva. There were twelve suoh mercurial phalli of extreme high power whioh were at the head of the minor thousand-eight kinds of the same. They are, namely,

Sarabhi, Kamalini, Ashtama Biddhi, Akaddaowarupi, Kamadhenu, Bhogi, Banthani, Akshari, Akasi, Vidayadipi, Sparas-vedi and Nadervedi. Each had ite unique power, eg., when 8urabhi is put into or let down into the sea they allege that rea-water becomes cut anunder dried and parched up where this has been let down and when Kamalini is added to it, the water which han been out in twain exposing the earth onderneath becomes joined once more; thue the Niddhas declare they have recanted and redacted, from what is said in the Vedas, the whole knowinge of the macro-00mmic and micro-cosmio world. And how far we onn realize from the Veina of the above facte is the work of the versed Sanakrit great pandits and vain-titled Mahamaho Upathyayas, to explore the fields of old learning, find out from them what thry any, nfter no much light is thrown out by me from this literatare after a good amount of time. And to any after such conclusive evidenoe of such tast all-oomprising literature that the ancirnt ecience of alchemy in India is asnt such that it cannot be given the name of a litprature ne allrgud by Dr. P. C. Ray, when such stupendous monumental evidence of an original tind which has not been oared for by any to explore, it will not only he simple folly but innate jealouas nid impenetrable bias to give the credit to the Indo-Aryan, if done, by any foreigner. And in tho same literature, it is said that once at a time the whole Asiatic continent was a Biddha Bhumi, peopled by Siddhas and Devas and that there were 64 such centres called mattams or siddhalavas, extending from above the Mera or the Himalayan table lands to the Asiatio Archipelago. Each such centre was presided over by a swarapa Gnani, aurrounded by his disciples, followera and laymen. Two presidential lodges, called mandalas, there were, one in the north of India at Kailas and the other in South India, oalled Agasthya Koota, presided over by Dakabinamoorthi or Agasthya Mahamuni. All the different Matathipathis of the other 62 mutte were to bo pased and certified to as Siddhas in the south by Agasthya and in the north by Siva. In Kandahar there was the Gandharvananda Yogi, in the Chinese tableland, Kalangi, who may be their Confusius (in their language traditionally changed in pronnnciation. Probably in the Indian continent there was Viswananda Yogi in Benares, Somavananda in Guzerat, etc., aid thre were too many such mutts of illustrious names and of their disciples also too many to mention. In the South Indian Arehipelago, it is said by Konkana and Bhoga that there was a colony of Siva Ganas or followers of Siva to protect the five mercorial wells after a run of 6,000 yojnnas in the midas of the ocean wherefrom the Siddhas are said to have obtained their indent and sapply of mercury. This may be the present Bali Island where there are ret the dilapidnted evidences of the Indian temples and architectare with the other relics of the ancient thought and Indian civilization. These Tamil Siddha authors say that each mutt or Asrama which was called a Siddha (A-Laya), Alaya, i.e., the abode of the Siddha until he attained hia Laya, meaning absorption, and had ite own Sastras compiled for the use of their own heads and disciples. The prominent among both the Kailasa and Srimula Paramparas any that each have left complete records with keys to their litarature and calt with humane intention, so that others may follow and avail themselyes of the advantage offered by them towards their beatific end. Two such keys, extant books, available to ns are of the compilation of Sattainatha Mahamuni and Bhoga Rishi. They allude to the following who have left records bofore themselves, namely, that Nandidera and Sankara Mahamoni have written in Sanskrit Chandẹ, in very difficult abstruse enigmatic diotion, and language incapable of being understood and of no use to the laity, but to the disciples trained in their traditions, ways and arts in their own mutte, and that Vemanna, in Telugn, has said, the exact meaning and import of his words are incapable of being nnderstood. Bhoga has given equivalent Sanskrit names also in his key. Goraksha, Mathsya, Agasthya, Pathanjali, Kasayapa, Sivayogi, Gowthama, Sri Mula, Sivavakya, Roma, eto., all these have been very ably dealt with, but in a mazy mnemonical language not capable of being understood by ordinary men. Some of these and prominently Agasthya, Roma, and Thanvanthari have combined the. Thantrika art also in this lifterature, which has to be taken its later-day sense, and not original. The import of the word Thanthara in their books seems to be different from what we understand nowadays. In Tamil, Thanthra means one's own capability. In Sanskrit, the root sense is that which protects the body which is called Thana, when the knowledge of organic and inorganio Chomistry became combined in one man, the chemist under the combined category became a deft man and adept. Such Siddha accomplished his aim very deftly and stccessfully, hence the chemioal sense of the word became misapplied in the absence of doing a thing without capacity and not deftly doing, meant black magic as not having understood the applicability of the means employed. In wrongly construing, it has been all over the world all the same throughout the different ages.

At the same time the men who have aaid to have written plainly are Pathanjali Mabamoorthi, Sundarananda and Mayooranantha Yogis whose works are not obtainable now, and all the above-aaid anthors onanimously say that Nandideva, Sanaka, Sanandana, Banathkumara, Sivayoga Mahamani, Pathanjali, Vyaghrapatha and Janaka were all their elders and anteriora. The various heads of the matts had their phalli for themselves for their treble-fold object of Samathi Yoga, transforming and aatisfying every requisites also, namely, the very many things brought in contact through the rays from these phali within a prescribed radiu a were being electrified and transformed whioh was observed in their daily prjas as naivedyas. (Compare the effeots of radium rays in charging other metals). They have made chemically potent and refulgent vigrahas or idols oapable of giving Kaya-siddhi power for their followers and laity out of the transformed metals and meroury and left them in the posossession of their disciples, that. they themselves were to be left undisturbed in their meditative work. Hence they were called

Why other sarrounding nations in the absence of their real knowledge about the Indian and Asiatio nations that the Indian was a phallus worshipper atd that their followers have become idolators and the old siddhalayas have become alayas or temples all over the continent.

From the same literature, we can dednce in the same fashion an explanation for very many intricate questions of nowadays, as to why we came down to be idolators from the world-old Nirguna worship, why at a time when the Indian, rather Asiatic, oivilization was at its zenith and why the pick of the nation was sacrificed at the old battle-fields, one in Ceylon and the other in Karukshetra as per Ramayana and Mahabharatha, and why there were so many invasions -over India from the west from the time of the great Alexander to the innumerable Muhammadan invasions and to the division and subdivision of this universe and many stach nniverses under various planatory systems and to the twelve such solar divisions which would not allow me to discuss in detail here. In their category the universe comprised of the five bhuthas, all put together, was called an Akanda, meaning that which cannot.be split, hence derivatively broad and expansive. The imperceptible, impersonal, unknowable, untouchable abstract essence which onderlies, pervades, permeates, oo-exists and co-evalent something in all the five comprised Shuthas, wrs called the universal spirit; and they say that there are thonsand-eight sach Akandas called together by name a Brahmanda and 254 such Brahmandas together called a Bhovana, and 84 such Bhuvanas called a Padham; the presiding deity over such Padhama is the Parasakti. This deity is represented in the microcosim of man as internal vision in him, and in the macro-cosam as Sukla or Sukra and the broad expense of Akasa, Chaos, or Soonya in the universe is called the open space of Siva, or Sadasiva. As the creation is evolved and sub--divided, we find in man his Thathwams are divided and subdivided, as a collaborate evidence that the man is created after the model of the universe. From this we see that God is an impersonal being to be found nowhere else but in the man's abstract thinking and realizing of Him within oneself and in the expansive universe to be joined as Athma Dhrishti with the universal light. That above man no other creation exists and in him the model of God is impressed and imbedded and the Anandamaya stage of the Gnani is only the end and aim of man, i.e., the Nirvana Goal - of the Buddha; but when man arrogates the power of God to himself like the old Hiranya, he has to be extirpated for his un-Godliness in the interests of and well-being of the world and homan society : the Samaya Acharayas have shaped the Nirgona religion of the olden days to the improving of, and enlargement of the society, of different ages to sait the convenience of the -members as per their determined principles of culture.

Passing over all these I give below as examples and samples, some recipes from the ancient -Chemistry as regards the treatment of minerals, acids, mercury and alehemy, by the adept Siddha and the efficacy by all the above, and I conolude with an earnest appeal to the world at large and to its learned great in particular and to the scientific poblic with an emphasis and at last to the specious humane Government as interested professedly in the Indian's advancement, yearningly to facilitate my future labour in completing my pursuit, carried up to now unaided and -single-handed, to produce a comprehensive critical history of this anoient fountain-head of knowledge, which I have pursued, for its owon sake unproductively to myself, so that many more may follow me to continue in my line to the exposition and realization as bearing on the various -other branches of the learning of the present day.

## Chemistry.

(1) Take Rook Salt and bind it with the help of two other salte, which, in its turn, will bind each of the following things in its next order of succession below:-Orax, Alom, Potassium Chloride, Sulphate of Ammonia, Corrosive Sublimate, Sulphate of Mercary, Yellow Arsenic, Solphar, Pirite of Gold, and Gold.
(2) Bind and alkalize Rock Salt, and do the same with regard to each of the following in - aucoession, one with the help of the next above, namely, Potassinm Chloride, Sulphate of Ammonis, Borax, Camphor, Sulphate of Copper, Calomel, Yellow Arsenic, Corrosive Sublimate, Meriary, -Gold Pirite, and this will become a boat to cross the alchemical sea.
(3) Acids-
(a) Lohadravaka-

|  | Roasted Copper Sulphate | $\ldots$ | ... | $\cdots$ | ... |  |  | eights. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (ii) | Bound Potassiom Chloride | ... | $\ldots$ | ... | ... | ... | 10 | " |
| (iii) | Do. Carbonate of Soda | $\ldots$ | $\cdots$ | $\cdots$ | $\ldots$ | $\cdots$ | 20 | " |
| (iv) | Do. Alum ... | $\ldots$ | ... | ... | $\ldots$ | ... | 10 | " |
| (v) | Do. Sulphate of Ammonia |  | ... | ... | ... | ... | 5 |  |
|  |  |  |  |  | Total | $\ldots$ | 55 | " |

Divide the above into five parts, extract acid from the first part and pour the first acid over the second part, dry it in the sun, extract acid in the same fashion; and by repeating the same five times over, take the conoentrated acid of the fifth time, and keep it in lac bottles, lest it should - corrode or eat away any other bottle. In this aoid any mineral, metal, etc., even the monntain will become soluble, any uparasa will give its metallio shape of extract if melt, servioeable for the sporpose of Jarana for meroury, whioh will lead you to the final beatitude.
(b) Mahadravakn-
(i) Roast Copper Bulphate

| ... | ... | ... | ... | ... | -. | 14 parte |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\ldots$ | . | .. | ... | ... | ... | 28 |
| ... | - | ... | ... | ... | ... | 84 " |
| ... | . | ... | ... | ... | ... | 4 " |
| ... | ... | ... | ... | ... | ... | 8 " |
| $\cdots$ | $\cdot$ | ... | ... | ... | ... | 2 |
| $\cdots$ | ... | ... | $\cdots$ | ... | ... | 8 " |
|  |  |  |  | Total |  | 148 |

(ii) Potassiom Chloride
(iii) Bicarbonate of Soda
(iv) Corrosive Sublimate
(v) Ammonia Sulphate
(vi) Alkali of Apamarga

Total
148 "
Powder the whole, mix, roast, and fry the aame with the above-said Lohadravaka and dry theeame in the san and divide it into seven parta and extract acids as described above by pouring the acid of the previous distillation over the succeeding part and thus concentrating the same by repeating the process seven times, keep the same in lac bottles. This extraotion proerm of this acid cannot be done by an ordinary man but by one who has attained the Kara-siddhi, if not the ordinary man's body will become split up. Administer one drop of the same to a vise or threeand one-third ponnd of mereary, it will become expanded into aehes of lime. With of th part of it you can alkalize any metal and fuse any nparasa, and this meroary ash will owoon hundred times as much more mercury to be made into phalli.
(c) With this concentrated acid above, sulphuric acid and acid from'the corrosive sublimate is extracted, which is not capable of being done by any ordinary man withont Kayasiddhi.

## (12)

## M.R.Ry. PANDIT K. SESHA AYYAR A vaball.

Q. 1. I beg to submit that I propose to deal with Ayurveda or the Hindu System of Medical: Science: The Unani system is, in my opinion, very mach indebted to the Ayurvedic Medioal Science in so far as a great portion of the drugs and the principles of treatment are ooncerned. The Siddha aystem is nothing but the development of Ayurveda in a particular branch of the science. It has for its basis the Tantras, i.e., works on Iatro-Chemistry, Magio and Alchemy, etc. Our renewed countryman, Dr. P. O. Ray, has given a clear exposition of these worka in bif "History of Hinda Chemistry."

Now, Ayurveda or the Hindu system of Medical Soience is divided into two main parte :-
(1) Prophylactic or preventive, and
(2) Curative.

The former comprises of instractions as to how one should conduct oneself during the day, the night, the seasons of the year, the different stages in life, etc., so as to become immune from the probable attacks of diseases and contain good many injonctions on the personal hygiene and the general sanitation. The ancients, by a strict adherence to these instrcctions, lived to a remaikable old age and enjoyed longevity. The second part treats of the varions diseases that the human flesh is victim to and their treatment; and it comprises of the following eight divisions:-
(1) Shalya--Surgery.
(2) Shalakya. -That division of the science which treats of diseases pertaining to the organs above the neok, viz., eyes, ears, nose, etc. ; so called because the Shalaka or the probe being used in their treatment.
(3) Kaya Chikitsa.-The division which treats of constitutional diseases, such as fevers, diarrhoea, bronchitis, phtsis, etc.
(4) Kaumara Bhritya.-The division which treats of the diseases of ohildren, women in pregnancy and after parturition.
(5) Bhuta Vidya.-The division of the science which treats of diseases brought on by the influence of super-physical agencies.
(6) Agadutantra.- The division which treats of poisons and their antidotes.
(7) Rasayana.-That portion which treats of remedies for rejovenating the worn-out bodily tissues and for preventing the effects of age on the system. And, lastly,
(8) Vajeekarana.-That portion which treats of remedies which restore the impaired and dissipated virile power.
Q. 2. (a) Ayurveda postulates three fandamental forces in the economy of the haran system called technically vayo, pittam and kapha. If these work in perfect harmony, they will be responsible for the health, strength and longevity of the system. These are then termed the Thri-dhatns of the system-Dhatavodeha Dharanat Sarangadhara. But, when the harmony of these fondamental vital forces is disturbed by some canses, external or internal, they will undergo a complete change and instead of continuing to be the preservers of the bodily system they will be transformed into doshas or the morbifit diathesis, the root cause of all bodily and mental diseases. Sarira Dhushanat dosho Sarangadhars. These doshas taking hold of any one or more of the seven bodily constituents (rasa rakta, etc.) vitiate the latter and bring on varions-kinds of diseases by generating morbid accumalation in the system. These are then calledMalaha Malinikaranam malaha Sarangadhara.

The oasuses that woold tend to distorb the harmony of the said Thri-dhatu are sammed up in the following works of the Charaka Samhita :--

Kalabudhindriyarthanzm mithyayoganachaticha dwayasrayanam vyadhinam thrividhohetusangraha.

Adverse, absence and excess indulgence of one with respect to one's (1) Rala (seasons of the year as well as stages in life), (2) Bhuddhi (mind and intellect) and (3) Indriyarthanam (parsaits of the sense-organs) are the three-fold causes of diseases, mental and physical.

These causes are internal. External causes, i.e., injuries, aocidents, etc., bring on disharmony in the working of the fundamental vital forces and hence produce disease and pain. In other words, even traumatic causes become idiopathic. Yet one more cause Ayarveda recognizes, and this is Karma-vipaka-the result of the dynamio action of one's previous births which determines one's heredity and environments in the present birth.

To sum up, the theory of eausation of diseases according to Ayurveda is three-fold.-(1) The result of the dynamic action of one's previous births, (2) injuries and accidents sastained by the body, and (3) the irregular halitts that one practises woith respect to time; mind and pursuits of sense-organs. These produce disharmony in the harmonious working of the three fundamental vital forces and bring on all diseases.

As regards the first of these causes, how oan we account for the disparity in the temperament and bodily formation of numerons children that are born into the world $P$ It is no fanlt of theirs and it looks as though they were particularly chosen by the whim of the deity or by ohanoe. But the idea that God is whimsical is quite repugnant and revolting to all religions notions worthy of the name; and science tells us that there is no such thing as chance in the universe. The only other explanation that holds good, until at least it is proved to the contrary, is that enunciated above, i.e., the result of the dynamic aotion of previons births. Modern science may not admit this theory on the ground of want of direct proof, but we hold that this theory is promulgated by the Rishis whose interior nature was fully unfolded and who had gradually passed on to the realm of intuition or direct cognition, with no other object than the love of truth and compassion to their fellow beings. Modern science, however, in its rapid strides of progress, is bound to reach this stage as time advances, as is evidenced by the "New Thought" and similar movements that have began to appear in America and in Europe; then the ancient truths of Ayurveda will receive corroboration from their investigations. As to the second of the canses, according to Ayurveda, traumatic causes beoome idiopathic that is, even external injuries cansed to the body, when sufficiently deep, affect one or more of the fundamental forces and disturb their harmonions working. Hence it is neoessary that, even in surgieal cases, the harmony of the fundamental forces should be maintained by the administration of some internal remedies, so that a speedy cure might be effected. As regards the last cause, Ayurveda affirms that the correct and moderate fanctioning of the mind and the sense organs with due regard to the seasons of the year and the stages of life, is the only cause for preserving the perfect barmony of the fundamental forces, which resalt in maintaining a sound body and a sound mind (Sammyek Yogastu Vigneyo Arogyasya Eka Karanam-Vagbhata). It is observed, therefore that the key-note of the Ayorvedic physicians in the causation of diseases is the disturbed harmony of the fundamental vital foroes of the body, i.e., the Threedhatas of Vayu, Pitham and Khapa.

As regards this hypothetical theory of the Threedhatus, the ayurvedic Rishis have proceeded in the analogy of the universe. "Man is a miniature world in himself and as in the Maorocosm so in the Microcosm." In the universe, we observe three factors working in harmony-Wind (including electricity and magnetism) Heat and Humidity. By harmonions working of these factors, the integrity of the universe is preserved and when their harmony is disturbed the universe will go to rack and ruin.

The same factors when translated to the human body will become the Threedhatus of the Ayurvedic physicians. If they work harmoniously they will regulate and control the funotions of the organism to a physiological effect bat the moment their harmony is disturbed they will be converted into pathologioal disorder, the Morbific Diatheses in the body. This theory embraoes within its compass all the existing theories of modern science on disease and even transcends them in many respects. The fact is the view point of the Ayurvedic physicians is entirely different from that of the modern Western doctors. To the latter, the field of investigation is only matter of which the physical body is constitated; whereas to the former, it is Life which aninates every partiole of that body. All investigations and discoveries of the Ayprvedic physicians are made in so far as the external forces have a bearing on that life principle. A varveda is, therefore, as the term itself connotes, "The Science of Life." The science to which all other soiences, viz., Biology, Physiology, Anatomy, Surgery, Chemistry, Botany, eto., are related in so far as they have their bearing on that life and not beyond it. It is in the fitness of things that our great scientist Dr . J. O. Bose should lead the way to investigations and researohes into the domain of life; and it is hoped that the ancient theory of Ayrurveda will receive support by his investigations.
(b) The key-note of the causation of all diseases, that vicitimise the human body is as said above, the disturbed harmony of the Threedhatus either severally or oonoertedly. Whenever this happens, the body manifests some physiologioal and pathologioal ohanges or symptoms, oharacteristio of one or other of the particular disturbed dhatus. The physioian is, therefore. enjoined to know whioh partioular dhatu or dhatus are affeoted and what ohanges, it or they
have wrought on the arstem, by carcfal obeorvatione of the different bodily orgass and excrotions, by examination by contact and by enquiry ; Dharama, \&percome, Prame, Peritatifecina, -Roghinem" - Madhava Nidhan, and the following facte are to be noted in relation to dimeoe: (1) Etiology, (2) Incubatory aymptoms. (3) Developed aymptome, (4) Previous treatment and ite rosalta, (5) The present otage. "Hognacha midana, Progrupo, rupa. Cpasayn, \&ompruptibini" "Madhra Nidhan. Three stages are differentiated in the carreer of a dipesee having repard ite deep-seated nature or otherwise- (1) Easily curable, (2) Difficolt of cure or suppreaible, and (3) Incurable. Again by obeerving and noting some pecoliar ormptome that the hife manifeote, symptoms called Arishta Lalhanam, it is possible to prognastionte the probable, if not the exact, moment of death of the patient. Beaides the above, Aphygmology or the acience of the pube bea been elaborated and adopted as a method of diagnosing and prognosing the diernec. There are several treatises on this sciezce, chiff among them being Kanada's " Nade Vigmena" and Karana's Nadi Pariksha. As this is an abstruse acience in which intaitive fncolty of the phraician io brought to play more than his reasoning, nothing more could be anid of thin here.

These are, in short the methods adopted by the Ayorvedic physiciane diagnosing as well an prognosing a disease.

The principle involved in the treatment of diseases according to Ararveda in a restorntion to harmony. of the disturbed fundamental vital principles of Varn, Pitha and Khapa; in other words, the following of the rational law of "Vis., Medicatrix Naturae." In contradistinction to "Contraria Contrariis Curantor" and "Similis Similibua Carantor." In the short compase, it woold be quite impossible to do adequate jastice to all the methods of treatment both surgioal and therapeutical, enjoyed and practised by the Ayurveda. A ohort oynopsia, howerer, will bo attempted in the following lives: First, surgical operations are under the following heade: (1) Chedana-Excision, (2) Bhedana-Opening namely abocess, 3. Dharana-Burating by medical applications, (4) Lethana-Scraping, (5) Aharana extracting, (6) Eshena-Probing, (7) I yodhona -Pancturing (opening a vein) (8) Vidravana-Including discharge, (9) Sceoana-sewing, (10) Santhanz-Helping re-union or adhesion of fractures etc. (11) Peddama-Preaing, (12) Shumta Astaphana-A rrest of bleeding,(13) Niroapana-Cooling application, (14) Utkarika and CpanahaMassive ponltices, Knshaya-Washing with decoctions, Varti-Lint or plugging, A eachurnemaDusting with medical powders. Vranadhupana-Fumigation of an olcer, Etoadhana--Raining of the margins or bed of an olcer, Avosadhana-Destruction of excess granulation, Rakta 8 hravomaBlood letting, Ksharukarma-application of caustics, Agmi karma-Canterisation, Roma Sanja-nana-Bringing on a growth of hair and Romapaharana-Depilation and as regard therapentical methods, two methods are followed in giving effect to the above principles-one is Samshamana, i.e., neutralising the morhid matters by the aid of medicines and the other is Sameodhana, ie., eliminating the morbidity by parificatory processes of emetics, purgatives and enemas and injpotions Khapa is subjagated by emetics; pitham by pargatives and rayu by onemas and in jeotions ; and the concerted actions of the doshas by a combination of these methode. Besidea thaso fasting or low diet, plastering, Parishekn-praying ; Abhyanga-Bnointing, Swedh, Diaphorsia; Massage, Errhines, Snoffing, Karoaladharana-Gargling ; Dhuma-Fumigation ; and Urithral and Vaginal injections (Dttaravasti) are other methoda that ahould be adopted in diseases which admit of such resources. Dietetics and nursing have been recognized as factors of supreme importance in the treatment of diseases. No less emphasis is laid on the antiseptic and bygienio measures in all treatments. Besides these, in Karma Vipaka type of diseases, in mental distempers and in the type of ailments broaght on by super physical agencies, prayer, worship, ceremonies -and other propitiatory means are recommended.

> " Janmantara kritam popam vyadhi rupena pidyathe, Tateanthir oushadhoir danir japa homa sura rchanihi."

With such broad based and sound principles of treatment, as are inculeated by Ayarveda, what wonder is there that the cures are remarkably efficacious 9 Notwithatanding the apathy of the State and the pablic, the very fact that it is making a head-way in this country is proof positive of its inherent vitality. Even in the city of Madras, its activities are enormons. In the two institutions maintained by some philanthropic gentlemen at Mylapore and Triplicane according to the latest report 27,343 and 160,466 casea ! have been treated respectively. In the latter, the average daily attendance works op to 440 heads. If the scope and the resources of thew dispensaries are widened, more usefulness could andoabtedly resolt therefrom.
(c) Yes: In chronic condition of many diseases and particularly in sach diseases as aro pecoliar to this tropical climate sach as Vata-Rakta, A jirna, Grahini, Rakta-Pitha, Kusta, eto., the treatment according to the indigenons system is foand to be more efficacions. This is evidenced by the comparatively large number of chronic natare of diseseses and of invalids in the land rendered so by having obtained treatment by the other systems on the one hand, and that these have been in many cases successfally treated and restored to their normal healthy condition by the indigenous systems, under competent physicians on the other, are facts of everyday ccearrence that one comes across. Impartial and unbiassed eminent English and American doctora have also spoken to this very effect and it is needless to increase the balk of this memorandum by quoting them here.

Q 3 (a) Yes ; I am directly connected with an institation called the Ayarredic Pharmacy providing medical relief on indigenous lines in the Basavanagudi Extension, Bangalore City, being the proprietor and physician in charge thereof.
(b) I do not consider the existing institations of indigenons systems are satisfaotory on both the counts referred to in the question. In the first place the existing institotions are not properly equipped with the necessary medicines for all the ailments. In many cases, specific druga cannot be had at all, since the practitioners have to depend for their crude drags on the local vendors, who have little or no personal knowledge of many of them. In the generality of cases, the practitioners too, fare no better in respect of a personal knowledge of drugs. T'o remedy this, I would propose that in every district, drug gardens must be planted, where good many of the herbs and trees of medicinal value could be grown and their parts utilized in the medioines. In all existing municipal parks and gardens, arrangements should be made to plant indigenouis herbs, shrubs and trees of medicinal value, wherever possible, and their local vernacular, : Sanskrit and Botanical names mentioned on a ticket attached to each of them. Proper agenciea. should be appointed to get good and fresh drugs from the different parts, where they can be procured in plenty. In this way all the drugs of the Ayarvedic Pharmacopocia may be made available for the practitioners at a little or no cost. Secondly Medical Science being preeminently a practioal science, no better means of imparting instractions to the stadents could be conoeived of, than the bed-side of a patient. It is therefore absolutely necessary that every institution should have attached to it, a dispensary or a hospital with provision for in-patient wards, so that the students might learn first-hand, the nature of the disease and the method of treatment.
(c) No. To begin which I would propose that every district headquarters should have a dispensary and an hospital together with an institution to impart medical instruction on indigenous lines. Later on, whenever opportunities occur dispensaries may be established in the various taluks of which the distriot comprises.

Most emphatically Yes. The Unani and Tibbi College at Delhi, the Ayurvedic institutions in Bombay, Calcatta and Madras may be enlarged so as to give facilities for the studente on all the points mentioned above.

It is not at all too high but a thing indispensable to work out immediately to bring any tangible good both to the pablic and to the indigenons aystems.

I do not subscribe to the view of the Calcutta; University Commission. As indicated above, the view point and the method of treatment of the indigenous systems are quite different from those of the other systems and it is therefore impossible that the first would merge into the other for this reason. But each could materially profit itself by a comparative stady of other systems and by understanding them with an open mind and with the spirit of inquiry and learning. For instance, some of the principles and theories enunciated by Ayurveda, if considered dispassionately might throw a flood of light on the knotty and baffing problems of the origin, growth and saccessful treatment of many of the diseases peouliar to tropical countries. The researches and the accumulated experience of the ancient physicians and surgeons of India and the East, as recorded in the standard works of the respective sciences have a unique value of their own and will prove a great acquisition to the medical knowledge of the world if correctly understood.
Q. 6. For the exclusive study of the indigenons systems of medicines, the curriculam referred to, may not be necessary at all. There is, however, no harm if one does study them ; such study will only enlarge one's knowledge with regard to the details and may also assist in the clearer understanding of the general principles enunciated by Ayorveda. In addition to the study of the standard medical works of the indigenous systems, a study of such sciences as have a direct bearing on life may be found necessary such sciences as Astronomy, Astrology, Psychology Hypnotism and Mental-healing, Botany, Natural Science ; etc.
(a) I would think that three years (two years' study and one year's practical training) :are quite sufficient for students of Hindu medicine to become competent to practice the same. Honorary degrees of higher standards may be conferred on them from time to time in recognition of their work and independent researches in the field.
(b) Each student should possess preliminary educational qualifications of the sixth standard in Sanskrit and his own vernacular and the optional qualifications of sixth form or Secondary School-Leaving Certificate, in English language.
(c) The medium of instruction should be in the student's own vernacular.
Q. 7. I beg to submit that medical registration is quite necessary even to the indigenous astems of medicine. The practice of medicine without proper knowledge of the science is deprecated in very strong terms in the Sastras and the King is advised to inflict heavy punishment on those who administer medicines without sufficient knowledge. The medical soience being a practical science, it is hoped that due consideration will be paid, while extending the Registration Act, to the practical experience and repatation one has earned for one's self during long practice.
(a) With regard to the formation of the Medical Registration Board in question, my homble opinion is that in every district headquarters, one suoh board to be formed consisting of the District Collector and three non-official local leading gentlemen, who will be acquainted with the particular individual to be registered and his capabilities, etc. When application for registration is received by the Board, the applicant shall he asked to present himself in person and testify to his practical as well as theoretical knowledge in his profession. In addition to his theoretical knowledge, it would be better that one or two years practical training as junior under a renown and experienced physician he made a condition for admission as a registered practithioner, if the applicant has not received instruction in any recognized institution.
Q. 8. The cost of treatment according to the indigenous arstems is or must be decidedly lewo than the alien systems for obvious reasons. First, the unlimited rewoureer of getting the indigenons drugs nsed in the preparation of the medicines could he procured at a amall cont, many herhs and roots being procured from the jnagles and fields at the mere coet of colliertion. The preparation of medicines does not involve much expense by way of purchaning apecial npparatua and technical lahour. The former consists of some metal and stone and rarthware apparatue, which could be locally got and some crade glass bottles and retorts; the physician himeelf will supply the necessary expert knowledge, manaal labour alone heing hired for getting the druga pounded or ground as the case may be and this could be had at not a considerahle coat. The dietery prescribed will not be of a costly natare involving the use of bottled foods, etc., coming out from foreign countries ; but they consist of simple and wholpsome preparations directed to be prepared in the home. In the indigenous system, since the attending physician plya the role of apothecary, compounder and a draggist himself, the patient has not got to pay for the medicinea and the doctor's fees separately, as is the case in the alien systems. In many casps, according to the ancient usage, the physician will be rewarded only after the patient is cured, in accordance with the abilities and the financial status of the latter. If the treatment be not successful, the physician should have to go in many cases, not only without his fees, but even withont the coot of his medicines. Unlike the too exacting and rigid methods of the alien systems, the indigenoue methods are and should be hamane, sympathetic and adopted to the condition of the patient in the matter of charges, if followed strictly in accordance with the ancient uages.

It should not, however, be denied that there are costly medicines in the Arurvedio Pharmacopoia, these are intended for rich and royal personages who could afford to pay for them. These involve the composition of such costly drugs as gold, silver, amber, musk, pearls, mercury, etc., and necessarily the cost of such medicines must be great. Even here, taking into conaideration the small dosage in which such medicines are preseribed, and their absolute freshness for a long time to come, these so-called costly medicines will prove cheaper in the long ran. For these reasons, I submit, the indigenons methods of treatment must be cheaper than the alipn systems.
Q. 9. The causes for the decay of the indigenous systems are, in my opinion, threefold : (1) The utter neglect if not positive discouraging; of the indigenons systems by the 8tate on the one hand, side by side with its unqualified support and favour to the alien systems, by founding and encouraging to found dispensaries and hospitals after these latter, wherever possible and necessary, on the other ; (2) The unmerited and unjust prejudice against these indigenous systems, cherished by the educated classes and aristooracy of the land and their apathy and luke-warmneat towards attempts made to revive them ; (3) Want of adaptability on the part of the practitioners of the indigenous systems to suit themselves to the changed conditions and environments.

The State should change its angle of vision towards the indigenons systems and to give thereto, its entire sapport and encouragement. Secondly, the Indian Aristocracy and the educated classes shonld know that the indigenous systems of medicine are at least as good as, any foreign system, by judging them on their merite only. Thirdly, the practitioners of the indigenous systems should conduct themselves in such a way as to enable all educated and oultured people in the land to understand that the indigenous systems have their intrinsic and genuine value, in bringing relief to the suffering homanity and that it is but just and patriotio to lend sapport and encouragement to these indigenons systems. By these means a revival may be effected of the indigenous system in the land.

Suggestions for the revival.-Now, the medical portfolio being in the hands of the Indian Minister, opportanities should be given whenever and wherever possible for the opening of the Ayorvedic dispensaries, in several districts and taluks in the Presidency. A Training College with proper equipment and manned by competent physicians from Upper India should be opened in the Capital of the Presidency as well as in two or more other centres for producing efficient and capable men both in theory and practice; in short all facilities should be given for proper instruction to be imparted to the students. Equal statue should be given to the practitioners of the indigenors systems side by side with those of the alien syatems.
Q. 10. (a) The State could foster and promote the indigenons systems by (1) establishing several hospitals and dispensaries in different centres in preference to the allopathic dispensaries and eark-mark a portion of the budget estimate for medical relief, to their up-keep; to recognize the merits of Ayurvedic physicians; to give equal opportunities to them to show forth their ability and skill and to give equal status to them along with physicians of the other system.
(b) The Local Board also should try to found as many dispensaries as they can of the indigenous system and set apart a portion of the revenue or cess for this parpose.
(c) The University shonld found a chair for the indigenous systems of medicine in the faculty of medicine and employ distinguished physicians to give or to deliver University Extension Lectures from time to time. The University shonld also make provision for and excourago researches in the said systems on their own lines.
(d) Private agencies.-All charitable and philantbropic gentlemen should be encouraged to fonnd dispensaries and hospitals of the indigenons systems and landed and other endowments. should be made for their up-keep. Zamindars and rich people should be encouraged to get -important and renowned sastric remedies prepared by the distingaished physicians of their land.
$s 0$ that such medicines may be freely distribated by them along their tenants, towns-people, eto: Portion of the savings of renowned temples, such as Tirupati, may be utilized for establishing Ay urvedic hospitals, dispensaries and schools, within the provinces where suoh temples exist.
M.R.Ry. Rao Bamador A. KRISHNASWami AYYAR Avabgai, b.a,

The majority of people who have not received English Education and not yet conceived a disregard for things old may be said to take advantage of Ayorvedic medioine more than those who have received such education. The spread of Ayorvedic treatment will be benefioial to them. It will prove beneficial to others too when in course of time under proper support and with proper praotitioners its merit and usefulness come to be recognized. At present for want of proper Ayurvedio aid people naturally resort to Allopathic hospitals and dispensaries. In Travanoore where Government has established Ayurvedio dispensaries a large number of people are, it is nnderstood, taking advantage of them.
2. The Ayarvedic system does not require revision. Ayurveda finds a place in one of the four Vedas of the Hindus which are admitted to be of great antiquity. Agnivesha and other Rishis wrote later treatises in Sanskrit. While Sanskrit learning beoame confined to Brahmanas and Brahmanas came to consider the profession of a physician as unsuitable to their priestly avocation the study of the books on medicine became very mach limited. Gradually without any knowledge of the books, practitioners, on traditional experience only came into existence. From the time of the advent of the British Government and the establishment of Allopathic hospitals and dispensaries Ayurveda has lost ground. In the present day there are very fow practitioners who have gone through a regular course of Ayurvedic study and training. Impartial and competent investigatore like Captain Srinivasamurti of the Madras Ayurvedic and Unani Medioal Committea and gentlemen like Messrs. Gananath Sen and Yamini Bhashan Roy and others who have taken English Medical degrees and are Ayurvedic practitioners will be able to state the oase of Ayurveda in English properly and compare it with the Allopathic system in respect of the merits of each as a science. Among other opinions I give mine for what it may be worth on some of the points on which it is asked for.
3. As regards the Aywrvedic theory of Vatha, Pitha, and Khapa in the causation of diseases, I wish to say a few words. One sohool of thinkers on the theory of the creation of the world believe in a Soul (Porusha) and Primordial matter (Prakriti-Aryaktha. unmanifested) which moves and evolves the worlds being acted on by the presence of the former and they believe in the latter possessing three guncs-properties called Sathva, Rajas and Thamas, which appear in all created objects-what exists in the cause exists in the effects. The Ayurvedio theory as regards the human body is that it is composed of the same matter, the Pancha Bhutas, as the outside world and that it comes into existence under the action of certain forces named in Sanskrit, Vatha, Pitha and Khapa, from parents after parents, the marked influence of each being.at birth, existence during life and death respectively. In 'their caual condition they operate as forces. They may be said to first manifest themselves as Vitality, Warmth and Cold in the body and in conorete form as vital element in the air, oxygen gas (Vatha), bile, gastric and other juices, muens, etc., secretions (Pitha and Khapa). They regulate the conditions of gaseous, liquid and solid matter in the body. Vatha is said to enable all movements in the body to be effected and Pitha and Khapa to enable certain organs and secretions to effect digestion and certain other functions and under the aotion of the three foroes takes place the transformation of food from stage to stage into chyle, blood, flesh, bone, etc. What are oalled natural funotions of the organs and secretions by the materialist are considered as the result of the action of certain forces-Sakthis or powers, by the Ayurvedin who believes in a supernatural power. The normal condition of Vatha, Pitha and Khapa in the body is health. A disturbanoe in it is disease. People are born with different constitutions and temperaments classed broadly as Vathe prakrithi, Pitha prakrithi and Khapa prakrithi which may be said to correspond to what are called Nervous, Bilions and Phlegmatio constitutions. Their mental qualities generally differ acoordingly. The susceptibilities to disease and to treatment generally differ accordingly. Each disease is classed according to symptoms grouped under each of the three classes Vatha, Pitha and Khapa. The treatment therefor and the receipes are also similarly olassed. The medicai properties of each drug are described in the same manner. The Therapeatios of each in so far as its action on the hroman body is concerned is also described. The methods of cleansing and curing the body of any ailment are also classed in the same manner under Vatha, Pitha and Khapa. For oleansing (Sodhana) enema is presoribed for Vatha Dosha (looated principally in the intestines) purgatives for Pitha dosham (looated principally in the liver) and Emetics for Khapa dosha (in the stomach).

The theory of the first cause of diseases may vary according to each different achool of thought in the same way as the theory of the oreation of the world. One school does not ordinarily accept the view of a different school and it is not unnatural that the Allopath does not accept the Ayurvedic theory and he finds it easy to reject it by oalling it unscientific. . Vaths, Pitha and Khapa as causal forces would seem to have a deep signifiosnce. We aave to note the forces controlling the creation (evolotion), preservation and destruction of the world and in the haman body, birth, life and death. The systole and diastole and panse of the heart and the inspiration, expiration and pause of the lungs would seem to indioate a oorrespondence. In. regard to the mind we have the waking state (under the action of Vatha) Dream (under the
aotion of Pittha) and aleep (under Khapa). To those who ohoose to rejeot Arurreda an ancientifio beocane they do not cocept the distinotion Vatha, Pittha and Kapha, ithres not being demonstrable to the eye it may be asid that repated authoritice have written that all medicine in gress-work, that the Allopath has not said yet his last word about his theory of onumatinn of diseases and that if we ignore the theory of oausation in Ayurveda nnd the terma Vntha, Pittha and Kapha, we yet find a highly systematized, logicaily consiatent and practionlly working olassification nuder the heads termed Vatha, Pittha and Kapha. Assuming the distisistion to bo a hypothesis we find it well answers for the rational treatment of diseneos. The Ayurvedin considera that the treatment by an Allopath is for symptoms only as and when they exhibit themselves without the common cause of them being understood in conses of chronic illnese specially. The olassifioation under Vatha, Pittha, and Kapha of diseases in only a clasecification in brief (Dosha sangraha) but really the number is very large owing to the combination of any two of these Doshas or all the three combined and in differing degrees of intensity of each in each case of illness. The brief olasification of the symptoms grouped, the diagnosia, the methode of treatment, the receipes, the properties of drugs, the diet, the habits of life. eto., under these three heads enables the Ayurvedic physician to treat rationally all diseases in which the symptome desoribed under the three heads appear severally or in combination. The hypothesis is a rational and practically working hypothesis and it will be a great service to humanity to revive a largo body of very valuable treatments colleoted from the experience of long ages without rejecting it becaüso ớt the ipse dixit of persons interested in opposing the same.

To revive Ayurvedic treatment the aid of Government and the public is neceanary. An Ayurvedic Medical College, a hospital and half a dozen dispensaries should be establiahrd in each province to start with. For an Ayurvedic practitioner to suoceed in bis practice and for bie bsystem to thrive it is necessary that he should know English and be able to explain to Englisheducated patients their illness in English and in the language of Physiolugy, Anntomy with which they are generally acquainted. Without the help and sympathy of the English educated pablic in whose hands power and influence lie his cause cannot succeed. I am of opinion that stadents educated up to the Intermediate or the Bachelor of Arts course in English and possessing a fair knowledge of Sanskrit should be admitted as students in the A yurvedic College. If :atudents knowing both English and Sanskrit be not forthooming we may have to give two yeart Sanskrit teaching to the students passed in English and admit them. They should study Ayarveda for three years. They shoald then be admitted in an English Medical Collage and study in it for two years according to a special carriculum for them attending at disections and operations. They should stady physiology and anatomy and the elemente of modern physioal soience. The general caltare derivable from a study of these is essential. After thro oompleting the college course the student should undergo practical training for one year under a trained physician in an Ayurvedic hospital. He may thereafter be considered to be qualified to practise as an Ayorvedic physician.

For a college two teachers on a salary of Rs. 150 to Re. 200 per mensem each may be necessary at starting. For the stodente a scholarship of Rs. 50 to Rs. 100 per mensem each scoording to qualifications may be necessary. For a hospital two physicians on a salary of Rs. 150 to Rs. 200 per mensem each may have to be employed. Necessary provision for in-patients (beds) as may be required should be made. For a dispensary one physician on a salary -of Rs. 150 to Rs. 200 will be neceessary. Each ont-patient will cost in medicine about Rs. 2 to Rs. 3 per mensem.

The question of establishing different degrees like L.M.S., etc., for passed stadents in Ayorveda may be left for consideration later on after a college is worked for a conrar. Other questions as to standardizing medicines, registration of physicians, etc., may also be left for later consideration. No satisfactory arrangement exists for the supply of good crude drags. When there is a regular demand we may hope that proper supply will be forthcoming. The question of translating into the Hindi or other vernacular the books in Sanskrit should also be left for consideration later. As instraction through the vernacular will not be tbought of in English Medical colleges ; so instruction throngh vernacolar translation of Ayurveda will be imperfect at present.

Costly medicines are a small number containing gold, silver and other valuable ingredients which may be necessary in very rare oases and they may be left out of congideration for the present. The Ashtanga-Hridaya treatment which is mostly with plante, roots and herbs, oil and ghee is what shoold be adopted in Ayurvedic hospitals and dispensaries in general. The treatment under this system is quite satisfactory as it has been fonnd in the Venkataramana and other Ayorvedio dispensaries in Madras. The Ashtanga-Hridaya treatment, we may say, is one-third with plants, roots and herbs, one third with medicated oils and one-third with medioated ghee. In hot countries the use of the two latter is of great benefit in the oase of a number of diseasea and it is an advantage which Ayarvedic treatment may be said to possess over Allopathio treatment in India.

In regard to surgery and midwifery the modern advance is very great and the old Ayarvedia instruments and appliances may no longer be necessary. But certain healing oils, etc., and diets prescribed in Ayurveda may with advantage be still adopted and the Ayarvedic atadent should learn modern surgery and midwifery daring his course in the English Medical College, suggested above.

A good case fails for want of a proper advocate. It may be hoped that with good exponente and proper sapport Ayurveda may regain ite lost ground.

## ENGLISH TRANSLATION OF THE EVIDENCE OF HAKIM ABDUL RAHMAN SAHIB BAHADUR, VISHA VAIDYA, TRICHINOPOLY

I belong to Olavakode, Malabar district. I practice mantrams to cure all sorts of poisonous ${ }^{-}$ bites including cobra. During my twenty years practice several oases of rat and dog bites have been effectively oured. By mantra sakti alone, I have saved several lives from cobra bites at Olavakode. Village and railway officers who bear a personal testimony to my effective treatment were pleased to grant me certificates. A petition was also submitted to the Revenue Board by the people of Olavakode to establish a hospital under my management for effecting oure to people bitten by snakes, etc. The reply received thereto is with me now. It is also my desire that Government. should move in this direction to alleviate the trouble caused by the insects, animals, eto., of poisonous character of the Olavakode forest.

If I am called upon to appear before you with all my certificates, I shall do so, provided I am given trainage to and fro.

## M.R.Ry. V. CHAKRAVARTI PANDItHAR avarasi, M.R.Ry. C. R. VADIVElU Pandithar avargal, M.r.Ry. M. Nathamuni Pandithar avargal and M.R.Ry. K. S. KUPPUSWAMI Pandithar avargal.

Q. 1. We practice Tamil Science on medicines-Siddha's system.

Q 2. (a) Causes of diseases.-(1) inheritanoe, (2) excess or deficiency of food, its taste, its effects on the constitntion, (3) excess or deficiency of sexual intercourse, (4) working so as to affect mind and body, (5) abnormal duration of any of the seasons of the year, (6) worms and insects on land and in water, (7) suppression of the 14 natural discharges of the homan body, (8) foul air and impure water, (9) anxiety and excessive fear, (10) association with person affected by contagious diseases, (11) affection of the palses owing to want of sufficient sleep and rest causing three doshams, etc.
(b) The nature of the diseases is diagnosed by means of 'Ten tests' e.g., pulses, seoretion, excretion, tongue, eye, temperature of the body, colour of the body, voice, saliva and semen. Then the canse and different stages of the disease are diagnosed. The diseased are cured by internal and external application of medioines with or without diet. Our forefathers adopted the Siddha's system and cured a number of diseases such as fevers, tetanus, dyspepsia, venerial diseases, paralysis, etc. The same system is being adopted by us and we have also oured a number of diseases. But we have not kept any account of the patients oured by us. We have, however, testimonials from some of them and some of the patients are still alive.
(c) Fever, delirium, hemiorania, rheumatism, dyspepsia, paralysis, elephantiasis, diabetes, leprosy, jaundiee, dropsy, which found no cure in the Allopathio dispensaries, have been oured by the Siddha's syatem. If necessary testimonials will be furnished from the patients oured of these diseases.
Q. 3. (a) Yes. We have been members of the South Indian Ayurvedio Sangam.
(b) (1) We know of two dispensaries conducted on the Tamil system. One at Washermanpet and the other in the Mint Streat. The patients there are well attended to.
(2) No instruction in medicine is imparted in any one in the dispensaries.
(3) Funds being inadequate these dispensaries are conduoted on small scale, but it may, however, be observed that they are progressing. If ample funds are seoured from the generous public and Government, they will work satisfactorily.
(c) No. If institutions to educate men in medicine are formed and text-books comprising the essence of the several treatises on medioine are compiled this indigenous system will then alone work very efficiently.
Q. 4, (a) (1), (2) and (3). Yes. It cannot be said definitely that there is any dispensary conducted on the Siddha's system where the ideal is attainable. But if such an institution containing dispensary, laboratory, library and museum and a garden of food herbs is eatablished in Madras where there are several facilities, the ideal oan be attained in the near future if the State helps.
(b) The ideal is not too high to achieve.
Q. 5. We agree. By a thorough study, research and investigation of the Indian aystem and by comparing results with the Western system, it may be possible to verify the system. But it may take some time. It will be necessary to work to that end to translate in different vernaculars treatises dealing on the preparation of specifio medicines such as Chendaram, Buspam, eto.
Q. 6. Yes. The course of studies should be drawn up by experts of both the systems (a) That there should be grades as in the English system acoording to the efficienoy of the eandidates learning the Siddha system. (b) In Tamil the stadent should possess a sound knowledge of ite literature. It will do well to have a knowledge of English as well. (c) The medium of instruotion ehould be Tamil and the course of instruction shoald amount to three to four years. Suocessful candidates should be awarded with titles soch as Maruthva Pulavan, Maruthva Mani, Marathva Siromani, eto.
Q. 7. Though the native doctors in towns and villages are of different merit, yet they auos cenfally treat the patients. Their names should be registered as in the aace of Englinh dootore.
(a) Yes. The Board should consist of equal number of representatives of Ayurredio, Siddha and Unani doctors.
Q. 8. The treatment according to Siddha aystem will not oost as much as that according to the Allopathic aystem. Tamil medicines do not cost mnah. Patients are oured by the Tamil medicinee in a shorter period than that by the English medicines. The diseases do not recur and the patirnte do not suffer any relapse of the disesae. The fees to native doctors and the diet to the patiente do cost only a little. In the siddha system of treatment no nurse is neopsary and the femalo members of the patient can conveniently attend to the wants of the patient and look after him. The native druga Lingam, Veeram, Pooram, Rayachenduram, etc. were chpaply available before, es they were prepared in Tamil towns and villages, namely Kumbakōnam, Pondicherry, Cochin, etc. At present these medicines are not enoouraged and so they have beoome rarely available. If the old system is revived these Tamil medicines will become very cheap.
Q. 9. The Tamil medicines are not dead. In most of the villages, thousands of them are in daily use and there are namberless doctors in these villages. Allopathio doctors and diapenaries are not in sufficient numbers in villages-A matter well-known to all. It cannot be denied that thousands of patients in towns and villages are now being treated by native docturs. Not only in the Madras Presidency but also in Ceylon, Burma, Straits Settlements, East Indies, Madagamcar, ete., the Siddha system of treatment is even now very popular. Not being sufficiently eneouraged by the rich and influential gentlemen and by the Government the system is declining day by day. This also leads to the scarcity of expert practitioners of the Siddha system.
Q. 10.. (a) to (d) Sufficient funds shonld be collected to establish 'A Tamil Medioal Reararch ' consisting of men sound in Tamil literature and expert in the Siddha system. Tamil treatises on medioines not now in print but only in palmyra leaves, should be collected and printed and formed into a library. A laboratory stored with all Tamil medicine should also be formed. Tamil medical men ahould learn how to prepare the medioines in the laboratory. Studenta that come out suosessful from this Medical College should be provided with work in the hospitala in charge of the unions, talak boards and manicipalities. Government, district municipalities, loond board and Senate shoald help the college with neceasary funds.

## SRIMAN BAISHNAVA THRIPATHI MAHASAYO.

Q. 1. I deal with the Ayarvedic division of indigenous syatem of medioine; and besides this I have at times sought the help of Siddhabaidic Tantrikas of the indigenous system of medicine as well.
Q. (2-a). For accurately settling the symptoms and the causations of diseases I have at the suggestion of Baidyakatantra followed closely Nidanpanchalia. The theories of cansation run ae follows :-
(1) Nidan, (2) Purbarupa, (3) Rupa, (4) Opasaya, (5) Samprapti.

Besides these I also lay special stress on the palse. urine, stool, tongue, tone, touch, sensation, eyes and also the temperaments of the patients; these methods conclusively reveal causes of the diseases.
(b) The books which are studied for the attainment of true knowledge and proficienoy and also for the administration of medioines after knowing the symptoms of the diseases and the nature and the tendencies thereof, are as follows :-

$$
\begin{array}{l|l}
\text { Nidane Madhaba Sresta } & \text { Sarire Susruta Proktah. } \\
\text { Satrastanetu Bakvatah } & \text { Charakastu Chikitsate. }
\end{array}
$$

I have been following this method of treatment for the last 19 years, and have cured moat dangerous patients in respect of which I cannot furnish statistics; to say the least I have found invaluable helps at the hands of these books and my conviction has led me to assert that these books are the authorities on this branoh of treatment. But nowadays one cannot be known to others without the recommendations of others. To this end I have collected a few copiss of testimonials of some local distinguished people and enclosed herewith for the kind perasal of the Committee.
(c) It has been seen in more than 99 aases out of handred that this system of treatment has produced marvellous effects in comparison with other systems of treatments because this system of treatment is quite compatible with the climate, living and food of the place and also quite in accordance with the surroundings in which the man lives and moves and also under whose fostering care the vegetable kingdom which is the source of the draggiste grows np. It is for these reasons that a mere root can oure the most dangerous diseases which the ao-called Allopathic treatment fails to do. Hence we give preference to this system of treatment.
Q. 3 (a) I have started a charitable dispensary here in Berhampar for more than 14 years on the indigenous lines: I, myself, examine my patients, compond medicines and sometimes go from door to door giving helping hands to the needy, and to those who cannot afford to come to me. For this act of mine I have been empowered by the Chatrapur Taluk Board to act as they Honorary Superintendent of the Board Ayarvedic Bidyalaya opened at Purushottapur in this district.
(b) The present institutions of indigenous system of medicine are not-satisfactory from the standpoint of adequasy of medical relief and also suitability as centres of medical eduoation becanse these institutions have some deplorable defects in teaching (1) Salyatantra (Surgery), (2) Salakyatantra (treatments bearing on the ouring of eyes and ears), (3) Kayachikitsa (ouring of fevers, etc.), (4) Bhata Vidya (treatments dealing with the possession by demons), (5) Kaumara: bratya treatment bearing on the bringing up of infants), (6) Agadatantra (treatment bearing on extracting poison), (7) Rasayantantra (treatment bearing on imparting strength and tone to the drooping apirit of a man and thus invigorating him), (8) Bajikarantantra (treatment of seminal \#laid).

Generally provision for the maintenance of these sorts of treatments ought to be made in. schools established for the parpose but we find scope for only six of these accesscries exoepting the first two such as Surgery and treatment bearing on eyes and ears. We hope that the indigenous system of medicine will be a complete suocess from start to finish if it will only be supplemented by the two methods of treatments sach as Surgery and curing of eyes and ears.
(c) I regret to write that there has been no provision made up till now for the proper advanoement of this system of treatment.
Q. 4-(a). If imparting ideal Ayurvedie training to the students on indigenous lines be at all aimed at, then it will be better to appoint professors of first-rate experience and also title-holders, and specialists. Besides arrangements should be made for placing the students under the very nose of these high class professors.
(b) For the simultaneous good of the students and the staff they should have within their easy reach hospitals, laboratories, libraries and masenms.
(c) For research work ample leisure should be allowed to the staff into the bargain.

In support of the three statements mentioned above I may siny that these are essentially necessary for the proper development of the indigenous system of treatment. It is found that the late Pandit D. Gopalacharlu Vaidyaratna of Madras did something for the ideal development of this system of medicine independent of any ontside help. Besides Kahiraja Sree Jaminikanta Ghosh MIIahasaya, Sj. Gananath Sen Mahamahopadhyaya of Caloutta, Kabiraj Srijut Umaoharan Bhattaoharya of Benares and many other experts in this department of treatment have achieved success in this respect by opening ideal institations solely conducting them properly on lines indigenous. Refleoting on the efficacy of this system which is, so to say, in a heap of ruins for want of due patronage and encouragement I appeal to the Madras Government to take early steps towards the establishment of institations on the indigenous lines.
(b) This ideal or this aim may be considered too much under the present state of affairs. But instead of this I may suggest the following methods. In the heart of the metropolis a college should be maintained and in distriots under the Presidency middle class institution of this type may be started, and in villages under the districts ordinary institutions based purely on indigenous lines may be started for expediting the spread of Ayurvedic knowledge. I believe if such arrangement be made then in no time the desired effects may be attained.
(c) Besides if such charitable dispensaries be opened in different places of the country then it will lead to a greater good and reflect a greater credit on the Government than any öther institutions have yet done.
Q. 5. The East and the West will never meet in this respect. The gulf of difference that lies between these two can never be bridged. The reason is that the indigenous system of treatment hes been in vogue from time immemorial in this country of ours which is famous all over the world for its fertility of soil, mineral wealth and for being the nursery garden of the evergreens. These are all due to the hallowed memories of the Rishis of old who have purified the surface of the Indian soil by means of their sanctified penance. It is why the Indian people are so much devoted to this system and also why they have such an implicit faith in this system.' It is for this reason that many patients can come round by the mere application of a simple drug in lieu of Allopathio treatment which is advooated by all as the best scientific antidote against all sorts of diseases. The reason why so many people have a liking for the unification of the two systems is that they are attracted by the hallowed show of titles and honours they would be dubbed with and not by any other considerations. Have the eminent physioians and authorities on the indigenous system of medicine given their unanimous consents to this sort of proposed unification P Perhaps, not. I think they would not by any means. Besides, the reports of the Caloutta Commission are not thorough going. They do not seem to make a thorough study of our Sastras on this head which are complete in themselves and do not want any improvement. They too have prescribed observation. Feeling of the pulse, examination of touch sensation and various other tests for fixing the nature and symptoms of diseases. So we cannot fully fall in with the opinion of the Commission.
Q. 6. Many people recommend the stady of books such as Physies, Chemistry, Biology, Anatomy Physiology, Pathology, etc., bat they do not know, it is a wonder, that we have mightier Sastras on these. The Sastras run as follows :-

- Physioa by Raj Nighanto : on Chemistry we have Rasendra Sarusangraha, Rasa-Ratnataro: Biology by Susruta. Anatomy by Susruta, a book on Surgery by Susrata so forth and so on. These people do not try to dive into the depth of the volumes of books which are-our sole passessions, and simply make a remark as ludicrous as anything.

Acoepting the above mentioned facts I urge that the following ayllabus may be adopted for imparting Ayarvedio tnowledge on an indigenons line :-
(a) The progressive standards proposed are as follows :-
(1) Ayurvedabisarada, (2) Baidisastri, (3) Visadacharyo.
(b) Preliminary qualifioations and periods of etudy ran as follows :-
(1) Ayprvedabisarada should contain three years' oourse.
(2) First year's course.-(1) Parivasaporadipa, (2) Banausadhidarpana, (8) Madhabanidan, (4) Rasendrasarasangraha, (5) First step to the study of dimoace, (6) Health Reader, Ansadhatantra, (8) Indian Phyisiology by Buaruta.

Second year's course.-(1) Chikitsachakradatta, (2) Art of Bargery by 8uaruta, (8) Nabyw drabya Guna. A book on mental Pathology caused specially by love.

Third year's course.-(1) Complete study of Madhabanidan, (2) Complete atudy of Chikitsachakradatta, (3) Sariradhyayo by Susruta-A book on Sargery by 8usruta, (4) Kriyatmakaohikitsa (latter portion), (6) Bastropachikitsa by Bakvats, eto.
(2) A student should read two years at least in the Baidyasastri division.

First year's course.-(1) Suaruta Sanhita (first part), (2) Sarirastananta with commentarios, (3) Charaka Sanhita (first part), (4) Bakvata Sanhita, (5) Kaya Chikitaa with ite commentaries.

Second year's course.-(1) Ayurbedaprakasa with its commentaries, (2) Barangadhara Sanhita, (3) Tailaprakarananta with commentary, (4) Bhabaprakasa with oommentary, etc.
(3) Two years' courses of studies to be presoribed for the Bhisakacharyo Eseamination.

First year's course.-(1) Charakasanhita (complete), (2) Bägvatasanhita, (8) Burrutarsanhita with its commentary.

Second year's course.-(1) Sarangadharawanhita, (2) Rajnighantu, (3) Biráaimhabali, (4) Agnibesa Sanhita, (5) Haritasanhita, (6) Bhedasanhita, etc.
(b) A stadent willing to appear in the Ayurvedabisarada Examination should read the following books:-

1. For Sanskrit knowledge he should read the following books :-

First year's course.-(1) Laghukamadi (Sabdha-Akhyanta and Kradanta) (2).Amarakosh (geven cantos), (3) Paryayamuktavalu, eto.

Second year's course.-Laghnkanmadi (complete), Raghubamsa (five cantos), Kumarasambhava (four cantos), Meghadoota (four cantos) and five cantos of Sakuntala.

A student who has made a study of these Sanskrit booke and has passed in the examination is eligible for Ayurveda Bisaradha Examination. Besides he must be good-natured, wellbehaved, of good moral character, of noble lineage, free from physical disabilities and he ahould possess a strong temperament into the bargain. If such a student completes his three years ${ }^{-}$ course he will be eligible for the Ayurvedabisaradha title. If a student studies Baidyasastri for two years and passes duly his examination he will get the Baidyasastri title. After this if he studies the Ayurvedic books and passes his examination he will be dubbed with Bhisakhacharya title.
(c) The medium of instraction should either be Sanskrit and Oriya or Telaga.
Q. 7. Medical registration should be extended to the indigenons system of medicine.
(a) If a Board of Registration be organized for admitting competent practitioners into the Medioal Register then I think these physicians will have a greater dignity and greater facility in this direction.
(b) I do not like to introduce any change in the body of laws as $I$ am quite in the dark about them.
Q. 8. Regarding the comparative cost of treatment according to the Allopathio and indigenous systems I give a statement below :-
> 1. Atropine Solphus prescribed for removing paing, for preventRE. A. P. ing pains, for preventing perspiration, etc., per lb.
> But our indigenous system prescribes an ointment or a more drug for these diseases, the cost of which may be ...

> 800
> 2. Quinine Sulphas prescribed for removing the pains settling on the veins and also typhoid fevers per lb .

> 7800
> But our system can cure such diseases by a mere Tails the cost of which may amonnt to Rs. 2.
> 3. Cocaine Hydrochloride for ouring tooth-ache Oz ... ... 48 0 0 But our system can oure it by a mere pill.

I may say further that there are some drastic remedies which can oure maladies in no time with least expense which Allopathic treatments fail to cure. The cost between them is sometimes undaly disproportionate. I request that due encouragement should be given to that which proves the surest and the least costly.
Q. 9. The decay perseptible now-a-days in respect of this indigenous system is due to the ntter apathy of the Government, want of proper ingredients and over and above all, monoy, the basis of everything. If the Imperial attention can be drawn to the regeneration of this systern once highly approved by all but now fallen into disase for want of proper organization, $I$ believe the old Rishi days will return to us and we shall be rid of all maladies, will be as healthy and as strong as the people of the days long gone by. In fine I request specially the members of the distriot boards, talnk boards and the Rajas of the State to take active ateps in this direction, and I believe that by so doing they will once again revive the drooping spirit of the: physicians who are dying for want of due attention to their present depraved circumstancem.

अतस्खिविधविकर्पा ठ्याधयः प्रार्दुर्भवन्ति। आग्रेयसौम्यकायक्याः । द्विशिधाश्राइपरे राजसा-
₹तामस|श्येति निदाने ॥
अथ खत्रु त्रय उवस्नम्माः त्रिविधं बलं ल्लिण्यायतानानि त्रयो रोगाः त्रयो रोगमार्गा: त्रिििः
भिषजः त्रिविषमोषधमिति ॥
च्रयो रोगा इति निजागन्तुपानसाः । तत्र निज: शररोरदोषसमुल्थः । अगन्तुर्भूतविषवायचन्युसम्प्रहारादिसमुत्थः । मानसः पुनरिष्टस्याऽलाभाल्ठाभाचाइनिष्टस्योपजायते ॥ इति त्रिस्नैषणीये ॥





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 ब्यथामभि निर्वर्तिन्ति ॥ इति महारोगाध्याये ॥ निजागन्तुविकागेन तत्र रोगा द्विधा समृतःः । तेषां कायमनोभेदादधिष्टानमपि द्विधा इल्यष्टांगे

 iगिक हेतोर्वाक्यानां सूत्रोपस्यूतानां परसपराडविरुद्धानामपि विरुद्दवद्रासमानानां विषयमत्र विचारयाम:।

पनश्र तद्धःवसंगोगा इति बाक्ये दु:सं करं संघटनें इल्येवं सत्या యिज्ञाताया- दु:ख习习ाभिषाता-



















 Kralbe bab: 2



 पित्तेक्रेप्माणः । विकृतास्वेने महता विरर्पयेणोपपादयन्ति ॥ वतकराकहीयाध्याये ॥ सरेवे एव


 ठ्यथामंभिनिर्तयन्ति : इनि महारोगाइध्याये ॥|

दोषाणां बहुसुसर्गास्तंकर्येन्ते द्युपकमाः। षट़लं नातिवर्तन्ते त्रिलं धातादयो यया ॥ इति
 विकृतिमापन्नाः खड़ु नानाविघैर्विकरैः शररारमुपतापयन्ति ॥ दृति रसविमाने ॥

वातपिप्तक्षेप्माणसतु घारीगद्दोषास्तेषामपि च विकाराः ज्वरातिसारशोथरोषमेहकुठादय इति ॥ रोगाइडनीकाइध्याये ॥
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जातं जीन्दोषानिति ॥ दोषभेदोयाडध्याये वाग्मटे ॥
 कारणत्वेनाइम्युपागच्छन् । तच्छारीरा वातपिप्तेट्रेट्माणो यावन्न पक्षुप्यन्ति तावद्याधयो नेष्पघन्ते।
 हश्यते । पुनश्षाडत्र जिज्ञासितोऽद्ययमर्थ: । यदि दोषाणां ठ्याधीन्व्रति कारणतं किम्मूतं तत्र्यास्सन्ति हि बहुविधानि कारणानि समवायिप्रभृतीनीति ॥
अस्मिमन्र्य विजयदीक्षितरतु देषाणां वधाघंन्द्रति निमित्तकारणत्वममन्यत। स एवमझूतयत्र यावन्निमिच₹थाये काँ्य तत्र निमित्त्रकारणनाशादपि कार्यनाशः यथा बार्ते तैलनाशाद्दापनाशस्तथामूताश्य दोषाः प्रायशः इति ॥

## एतत्स्वरस्यम् ।

वेदकालमारम्याSघाSवषि वैद्यविद्यामधिकृत्य बहवः खत्ड ग्रन्था व्यलिख्यन्त। परमधुना

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 हमभिभैमि ॥


 पराधजः। तत्सेकरार्मव्यन्यो व्याजिरेंज व्रिधा मतः ॥—्इति ॥ －

 रुगिवनिश्रये च सम्पग्ज्ञातुं शानुुय़：॥
 － विद्वविद्या च ज्ञानविज्ञानसम्बद्दाडस्ति । विज्ञानं चाडस्य बहिराबरगम्। ज्ञान बाड天्वन्तरावरणम्।




 - 故地生皆

 क्षेमेवाइस्तित नान्यदस्तीति ॥





 विरुदूमतं च समुद्राव्यते। तदिथथम्यूतायां अनुकम्पिताइबश्थायां कि नाम विच्चरतहं चरमविपशें－ नमिति परीक्षका एव किंचिदात्मगतं विचारयन्नु ।

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प्र. २. (ख.) उ.—तहुपलचिधश्र सर्वथा दुल्लमैवास्ति सर्वाशतः। यद्याधुनिकैः करणविशेषै: किचिदंशतरसाध्याः स्यु: ते च साध्यांशाः पाश्यास्यशास्त्रविमर्शनाप्रतिघातं ससन्तेषं सहेगन्निति मे
त्रिविध खत्ड रोगविशोषज्ञानं भवति । तद्यथाडSपोपदेशः प्रल्यक्षमनुमानं, चोति ।
तन्रेदमुपदिशान्ति बुन्दिमन्तो रोगमेकैकमेवृ्रकोपमेवयानिमेवमात्मानमेवमाधिषानमेवेवेद्नमेवंसंश्रानमेवंशबदะपर्शरूपरसमन्धमेवंमुपद्रवमेबंबृद्धिस्थानक्षयसमन्वितमेवमुदर्कमेवंनामानंमेवंयोगगंविय्यात् । तस्मिमन्नियं प्रत्रिकारप्रवृतिरथवा निवृचिरिस्युपदेशाज्ञायते
 नाव् तद्यथा-अन्त्रकूननं सन्धिसफोटनमंगुलिपर्वणं च सरविशेषांश्र ये चाडन्येडपि केचिच्छरीरोपगताः शब्दाः स्युस्ताःओंश्रेण परीक्षेत ॥
वर्णंसस्थानंप्रमाणच्छायाशगरीरपकृतिविकारौ चक्षुर्षैषयिकाणि चांडन्यानि याने काने च तानें चक्षुषा परीक्षेत ॥
रसं तु खल्वातुरशारीरगतामिन्द्रियवैषयिकमप्यनुमानादवगच्छेत्र । न ब्बस्य प्यक्षेण ग्रह्रणमुपपद्यते। तस्मादातुरपरिपभेनैवातुरमुखरसं विद्यात् ॥
एवमन्यानष्गयनुरशारीरगनान्रसाननुमिमीत । गन्धांतु खवड्ड सर्वशरीरगतानातुग्स्य . पक्ठतिवैका-
रिकान्घणेन परीक्षेत ।।
स्पर्ः च पाणिना प्रकृतिविकृतियुक्तामिति प्रत्यक्षत्मेSनुमानैकदेशतश्श परीक्षणमुक्तम्।

भहण्यानतु मृदुदारुणत्वं दुझखमदर्शनमभिपायं द्विष्टेष्टपुखनु:खानि चातुरपरिभश्नेनैव च विद्या-
दिनि त्रिरोगविज्ञाने चरके ॥


तन्न ओंत्रेन्द्रियविज्ञेया विशेषा सफेनें रक्तमरयनन्ननिलः सशह्वो निर्गच्छांते इल्येवमाद्वयः ॥


घरणेन्द्रियविज्ञेयाः अरिष्टलिगादिषु त्रणानां अद्रणानां च गन्घविशेषःः 廿
 बातमूंपुपीषाणां पवृत्यवृृती कालपकषादींश्य विशेषान्द्र अात्मसट्टरोषु निज्ञानाम्युपायेषु तत्स्थानीयैर्जानीयात् ॥1 इति ॥ विशिखाडनुपवरोनाये सुश्रुत ॥
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## दर्शनसपर्शानధश्नै: परीक्षेताथ रोगिणाम् इते बाग्मट: स्त्रस्थाने ॥







 चरकस्वाप्तोपदेशः प्रलक्षमनुमानं चेत्युक्ला शरीरगतानं शब्दपपर्शरूपगन्धानान्नु मत्यक्षेण रसғ्यानुमानेन । मुखरतपरिपश्भेन च परीक्षेतिति च तात्प्र्य ठ्यकतमुक्तश् ॥

सारस्यम् ।
 चाडEधा न्व भवति ॥ चिकिस्सकस्य दितीयविषय: परीक्षमघां रोग: । निदानं पूर्वरूपाणि रूपाण्युपझवस्तथा ।
 1 : 1 :lte - blaxs $\operatorname{slnk}$




 पढ्छांश्रैतेषां मापवे पश्येयु:॥


 बेंहादिक्किया न प्रतिपिध्यते। स्रिहादिक्कियासाध्येषु शस्रत्रू्म न कियते ॥ इति ॥
त्रिविषमीषधमिति चरकाचार्थं:। यदाह त्रिविधमीषधमिति । दैवठ्पपपश्र्यं युक्तिष्यापशश्रंयं
 भाणिपान तीर्थगमनादे। युक्तिब्गापाश्रयं पुनराहारीषधद्रव्याणां योजना। सत्वाडबजय: पुनरहितेक्यो मनेतविनिग्रहः।
 बहिः परिमार्जनं शस्त्रत्रणियानं चेति । तत्राक्तः परिमार्जनं यदन्तः शरीरमनुपविशयौषषमाहारजातयाषी"ๆभार्ष्टे ॥
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 अथैतददनूमः - रोगास्ख्रिविषःः निजा भागन्तवो मानसाश्र। तेषां त्रिविधविकर्पानां क्याधीनां

 किंचिद्नूमः:।



[^5] विशेषान्मेध्यपिशितरसतैलाडडुवासनम II पित्तस्य सर्विष: पानं/ स्वादुशीतीतिवैरिंचनम ।
 सुग्ध्रीतिहद्यानां गन्धानामुपतेवनम । कण्टे गुणानां हाराणां मणीनामुरसा धृतिः ॥ कर्रूरचन्दनोशरीरिरनलेप: क्षणे क्षणे । करूरचन्दनोशीरिस्रुलेप: क्षणे क्षणे
पदाष: चन्द्रभा: सौध हारी गीतं हिमेनिक: ॥

 सुरीर्थविपुलस्तंच्चसहिल्याशययसैंकते : साम्भोजजबतीरान्ने कापमाने द्रमाकुले। सौग्या भावाः प7ः सार्पार्विकक्न विशेषषः ॥ श्रेष्मणो बिधिना युक्ं तीक्षणं वमनरेचनम्। अन्नं रक्षाइएपतोष्णापणणं कुटुतिक्रकायकम् ।



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## पूर्वॉक्तेडु क्कोकेषु वाग्मटः सर्वा अपि चिकित्साइसंग्रह्हणाइदर्शायत् ॥

 णाद्युपयेन）—क्षीणानां च वर्षेनम（मधुरक्तिग्धादिसैदित्येः）। विषमाणां च समीकरणं（पाचनदी़ी－
 कमणीये द्विधिघोपकमणीये चाรध्याये द्रष्टण्गम् ॥

 वार्येडपि ब्याधितजीवनसमयं न बाधेतैब । तदित्यं पश्यमो द्वितीयक्ष साध्यो भवति सब्वाधान। तृतीयस्तसाधगेडडपि विनिह्दतम मावस्सन्शरीरान्न वियुज्यने। किंचाこडजीवितं व्याधितमधिवसन्तरीया－

 शांषे उर：क्षते राजयक्ष्मणि यदृद्व्वन्दौं रक्ताित्ते विसेप अनन्तबाते उन्मादे अपस्मृतौ एवंविघेप्मन्ये


प्र．२（ग）．उ．—ग्रहण्यां पुरणणपरिणामशूले मधुमेहे रक्तार्तेसरे सीव्निपतन्नर्न कुष्ष
 प्रशस्ततरामिति मन्मतम् ।

## एतद्विषये साक्ष्याह्साक्ष्यं प्रदित्सामि ।

प्र．३（क）．उ．—अस्ति कर्श्रित्तंबन्धश्रन्नपुरायाडSयुर्वेदकलाशालयासह 1 स च

 प्रतिसंन्त्सरम् ।

घ्र．₹（ख）．उ．－संदर्मवशादहं दाक्षिणात्यान् देशनगरानेगमजनपदान् बहृन पर्दंटंधतः
 पदा न सन्ति । विषयौ－（१）ठयाधितानां चिकित्साकरणम् ；（२）वैद्यविद्याध्ययनर्य केन्द्र－ ₹थानम् ।

अत्र चिकिस्सा विषये－यन्त्रशस्त्रक्षाराडग्रिकर्माこतीवसुतितिजलीक：पातादिसाधचन्वयाधीन्बाल－
 नन्यांश व्याधीन्यथाइास्त्र न चिकित्सन्ति ।

अध्ययन｜ड्र्यापनविषये चन्नपत्तनं केन्द्राभं विद्यते। तत्र च द्वे सार्वजनिके शांल पचलतः


> अभिभाय：—पूर्वोक्तविषययेर्दोषाइこवहा हेतबश्राःमी हःयन्ते।
 वद्यशालाभु शस्त्रीणिधानादिषु कृतमुखाः कृतहस्ताश चिकित्मका एव दुल्लमाः दुर्ञमाश्र निपुणम


र्वासां पुनरासामष्यवस्थानां दारिद्यूमेव मूलं प्रधानं च निदानम् । अन्येक्ल्या संम्राजां

## वैमनस्यमालस्यं च निदानमिति ज्ञूयम् ।



 सुतरां विरलास्तन्ति ।
सल्योमताद्शायां दशायामहमेवं संदेद्टुमुत्सहे.- काचन संसक्ठतसमिंतेः पूर्वेत्तवैद्यकलाशालानां याजमन्यमादाय सकलदोषनिंवहान्दूरिक्टल्य चथाकालानुकूलं सर्वसम्भारैराये़ज्य शालाः निर्विं
पचालयेदिति मे मतिः: भचालयेदिति मे मातिः ॥
प्र. ३ (ग). उ.-आयुर्वेदपद्दतिं तथा देशीयपद्योग़न्यतरां वाधिकृत्य विद्यमानास्तर्वोपकरणसमृद्दास्संस्थां नाऽघ्यावधि प्रचलुन्तीति वर्कुमत्यन्तं लजे ।
अत्र प्रतीकारस्तेवं स्यात्-नितान्तश्रद्दावंद्येस्सदस्यैरथवा राजाडधिकृतैवा तक्कार्यभारप्रवहणं सुतरामनुरूपं भवेदथवा विश्वविद्यासामेतेरेतक्कार्यनिवहमारसमर्पणं वा सुलमं सकारणं च हश्यते ॥
प्र. 8 (क). उ.—पीरस्त्यचिकितसाश्तंस्खस्या Sध्यययनाय तथा प्राचाराय च वक्ष्यमाणा
विषया अवश्यं स्वीकरणीया भवन्तीति मेऽमिप्राय:-
(१) तत्तद्वैद्याविभागेषु निष्णातानामाचार्याणामधीने तद्विद्याऽध्येतृन् सन्निधाप̣ंबेत् । येनाऽचार्याः प्रतिक्षणं शिष्याननुशास्तं समथेरने।।
(२) आचार्याः शिTष्याश्य समग्रसामग्रिसमृद्धेषु चिकिस्सालयेषु द्रव्यनिधिषु पुस्तकभाण्डारेजु
(३) भिषजस्सर्वे भिषकक्कुलेषु खेशु चथा सतन्त्रं खख्वविषयान् निरम्यन्तरे काले

अभपायः-इत्येवमुकास्त्रिर्गविषषया वैद्यविद्धाविशारदाया अवइयं भबेयुः । परमद्यावधि कचिदपि माइतभूभागे नैतादृशा भागधग्रोद्येन्मुखाः अश्रया द्वइन्ते। अपि च हश्यन्ते चन्नप्तने मोहमय्यां च द्वित्रा आश्रया ये च नाममात्रमवैतद्वगुणगणितास्तन्ति । यदि राजकीयास्यत्तद्धशा अन्ये•च प्रयतेरन् तदानीं सकलसम्पत्तीनामप्येतासiं सम्भवनाऽबकाशो विद्येत ॥
प्र. 8 (ख). ड.—कालेडसिमनूूर्वोपर्वर्णितशालाइशक्यसाध्या एवेति ममाSभिप्रायः 1
 माणमेव पन्थानमनुसरेयु: । विषयौ-(१) मनोरथरप सर्वारोेन साधनम्। (२) अभिपेताऽर्थस्य अटिति. निर्वहणम् 1
अभिप्राय:-—यद्येतट्विषयं कार्मतः परिणमयितुं न शन्कुयुस्तर्हिं सद्यस्तावदर्वाग्वैद्यविद्यालयेगु
 बनम्भवेत् II

सम्यगायुर्वेदमर्माणि नानन्तोरीि कालिकास्थानीयस्य विध्धविबालयस्य विशिष्टेसमितेस्सदसानां घनांसे
 कि चाडंहं तावत्पाश्रात्य ैैद्यतत्व कालान्तरेण मह्वा भयलेन चार्बेदत्तसाधनेन समूलं. परिवर्भपितुमीहमानेषु पुरुषार्थवरे प्वन्यतमः।



तंत्रवमुत्तरेयम्. - आयुवेदतत्वडवबोधनाय नवतन्त्राणां समावेशोडकिंचित्करो न चाऽभिनक-
 तन्त्राणि शिक्षेत नानि चाऽयुर्वेद्य परं नेपथ्यत्वेन पाठयेदिति मे मतम्।
 तसैव नेपध्यत्वेनाङ्गीकरोमि । तदनुकूलपुस्तकम्चिकां च संद्भर्माडनुसारेब विज्ञापययम ॥
प्र. ६ (क). उ.- तदेधमधीताइध्येतठ्यानां विद्रुषां च वर्ग त्रिश विमतुं सन्दिशेयम् । तथा विमकानां तरतम भेद्नोपार्जितज्ञानानाम उच्चावचांकितगोत्राण्युपरिष्टास्सूचितठ्यानि सान्ति ॥
 द्यालयेन समुद्नाविनया परीक्षया परिफ्कृतान्विद्यार्थिनो यथायोग्वं समुपयोजयेदनेन च। तेडस्युर्तीणविद्यार्थिनस्संयतोरताहा मवन्ति ॥
प्र. ६ (ग). उ.—सिद्धसिद्धान्तं यवनसिद्धान्तं चाडन्तरा $5 S$ युर्वेदसिद्दान्तं संक्कृताषंत्व भबोधयंपु: । तदवइयं लोकसमंजसं च मवति ॥
प्र. ७ उ.—सप्तमश्रश्नविषये मौनमेव कल्याणं साघनं मन्ये । प्र. く उ.—पौरस्तपाश्रात्यचिकिस्सापच्दत्ये।: पाश्रमत्यशैब्येव पच्चुरमूल्या विद्यते। अन्र च


 หतिनिधयन्तृर्तीयं लामं तदनु पाश्रार्याचिकित्सकास्तदुपरिष्टाचतुर्थ लामं समाेपपयन्ति। तदेवं पाश्राल्यौषधानि खभावतस्सरुपतश्र बहुमूळ्यानि भवन्ति ॥
ह्वितीयं कारणं तु—पाश्राल्यंचिकित्सकानां जीवनशैरी——े चाडनन्यसाधारणी नीवनशेल्धी समनुरुन्धन्ति । न केवलं नीवनशैल्यामेव अपि तु ते केवलं पराडवलम्बाससन्तस्सचिकिस्सोपयोगीने सर्वाण्यपि यन्त्राणण शास्त्राणि क्षारकरणन्यम्रिसाधनानि तथान्यन्यपि चिकित्ताकरणान्यत्र साषयित्मुसमर्था जलसाश्न 1 वैदेशिTकेष्वेव निबद्धाडSदुराः सरुणनननान्महता ख्येयनाSSयोबयन्ति ॥
तृतiयं कारणं-न केवलमौषधद्रव्याणे न च. यन्त्रशस्त्रादिंसाघनानि च परकीर्याणि; किन्द्र :

 भू यो मूयः घ घघातेन च नितरामवनतस्थितिमगत्।
तदेवं ह्याभणन्ति च़रित्रविद:—यश्न वेदसमयो चार्षिमश वेदांस्र्रीनन्तरा नाइन्ये घन्था अमूवन् । तदा तेषामेव ज्ञानांशाः आयुवेदाध्रुपवेदत्वेन परिणतःः प्राकाशन्त 1 कमेण च भाणण-
 तदानीं तदनुयायिंनां बेदेषु तदनुर्जीविग्रन्थ्ये च सभावसिद्दोडनादरोऽमूद्दिति पथमः सुन्दर्मःः द्वितीयसन्दर्भस्तु उपनिषदादीनां प्रचारसमय: : अत्र च वेदादिग्रन्थनां सत्यप्यादरेऽउस्थावशाद्रह्मज्ञानस्यैच परमपुरुषार्थत्वेन सत्कारोऽवरिष्टानiं मौतिकानां च केषलूमनादर इति 11
तृतीयसन्दर्म्मतु गौतमबुद्धस्याहिंसातचवोपदेशसमयः। यत्र च सर्वेंडप्यौहिकार्था अनर्थकत्वेनाऽपғतुतर्वेन च नितरामुदास्यन्त !।
चतुर्थसन्दर्भख्तु भारते वर्ष चीनहृणझकपत्डवयवनकालयवनमिश्रबाहलीकादिभि: प्रत्यन्तिकै-
 शार्तस्य प्रचाराऽबसरं नाऽददु:।

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पूर्वोक्तकारणान्यन्तरा प्लेकपुरुषष्याSपि भूयांस्यगांसि विद्यन्ते ॥

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 शेषासीत्त।
प. १० उ— तद्विंघापुनरुज्जीवनं च प्रजाप्रतिरूपकैसपदध्चैराविराचन्नपत्तने न्याय्यसूत्रोदये सदर्संत्र प्रस्थापितेनोपायेन साध्यं स्याव् ॥
नृपतयो माण्डलिका वैश्षविद्यालयाः खतन्त्रास्समितयो जनाश्य वक्ष्यमाणया रीस्यडडंडयुर्वेदममिचर्घयितुं प्रयतेरन्:-
(१) नृपतयः-आयुरेंदं हदयेनाडम्यनुज्ञाय तद्विदुषश्य पाश्यात्यचिकित्सकानिव सगौरवं

 र्दिनां कबाशालां रुणानां मेषजशालां च स्यापयेगुः। स्यापयेयुल्र परिशोषकशाखः ।।
 पदरेशेपे रम्याण्योषषिवनानि विरचयेयु: 1 कुगलान्मतिमतो वैद्यन्त्रभुक्कित्वोषषगृहेड़ स्थापयेपु: . पोत्साइयेयुस्ताह्विद्यार्थिनश्र ॥
(३) वैध्वविद्यालयास्तु-विविधानामितरविदानामिवाऽSडुर्वेदस्याडपि तरतमादिमेयेन परीक्षणमुपकश्पयेयुस्तथा योग्यताडनुरोधेनाएक्वितगोत्राणि वितरेगुः ।1
(8) खतन्चासतु - औषषशशालानां कलाशालानां च संस्य।पनाय पर्यामानि पनानि संगृह्ड वितरेयु: । पुराणांन जीर्णानि नवानि च पुम्तकानि संगृब पुस्तकमाण्डारं स्यापयेयुः।

दैनिकानि मास्सकानि वर्षाकाणि तद्दिद्यापचारणानि वृत्तपत्राणि पुत्तकानि ₹ं जनगेगुः $॥$

Senur Profesgor on Medicine, Ayurvedic Collage, Madrat.
श्री:
घन्वन्तरे नमस्तुम्यमायुवेद्वसरूपिणे।
वैद्यवियायमातन्त्रसम्पदायाध्वद्शीनेने !।
श्रीमतां तत्रभवतां सदेशवैद्यदमितिसम्यानां सविषे ददं विज्ञापयामः-
I. सदेखवैचमाधिक्टत्य प्रकटक़तानां भश्नावरीनामायुर्वेदसंप्रदागमनुृत्य प्रत्युंतराण्याभिषीयन्वेन
II. (a) आयुयेंदशबब्दस्य वृद्धिकराणि हास्तकराणि वा द्रठ्गगुणकर्माणि वेद्यल्ययमिति वा, अनेन अ|युषो हिताहितवस्तुपरिज्ञानेन आहिनविष्येभ्यं। निवृत्तिरुपदिइयत इति वाडयोडमवितु महीते.
 व्यापिनो वातादयो दोषः:, रसादयो घातॄः, खेदम्तूँ्रदयो मलुश्र परमं मूळकारणानि मवन्नि.

तन्र वातपित्तश्रेष्माणो दोषा इति-रसास्त्वंसमेदोडस्यिमजाखुकाणि घाववः इति—वस्तिपकाधाननासांनश्रोत्राटिम्यो निस्सरन्तस्याज्यपदार्भा मला इति च व्यवह्डियन्ते.

यदा हि दोषादगस्तमानावस्थां भाण्य शररीरस्याजरोग्यमुत्पादयन्न्ति उदा शरीरमभाप्य रोगवरां चिरं स्यैयेण तिष्ठति.

एवं सभावस्थां प्राप्याडरोग्यसंपच्या शरीरधर्माननुतिष्ठन्तो। दोषघानुमलास्समानासमानद्रव्यनुणकर्मणां संयोगमहिम्ना बौंद्ध क्षयं वा पामुवन्ति. एनहद्यी दोषविकृतिरेव रोग इल्यमिधीयते.

अनघिगतविकारॅद्दोषधातुमहैखस्य शरीरस्येमे गुणा मवन्ति.
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 कमझु पाववोत्पादनम्, इलेवमादिभिः नियाविरोषैषेश्शरीरमनुगृद्धातेः



रसादीनां सप्सषातूनां समावा़ितानां कमेण तर्पण ओजोबर्दन-विषमममीकरण ल्रेहन-
धारण-पूरणनगर्मोधादनानाने पषानकार्याणि.
 कायाणे. द्ददानीं स्रमाणाहृद्दिमितानां बातादिदोषाणां गुणा उच्यन्ते-

तत्र चद्दो



वृहमस्थि अध्यस्थ्यधििदन्तांश्रोप्पादयेव.密

[^6]मबा नु बृदो नेत्रांगगोरवं, पर्वसु ₹थूलमूूान्यरूंषि च कुर्पात




















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भूतโंशसंयेगगवैचित्येण यथा केषुचिच्र्रण्येषु लध्वादयो दशगुणा विद्यन्ते एवमपरेष्वपि द्रव्येषु
तद्रिन्ना गुर्वादयो दश गुणा भवन्ति. अपि च दछ्याश्रया गुर्वदयो गुणास्तन्निष्टेषु रसेष्वपि भवन्ति. त एव स्वाद्दग्ललवणतिक्तोषणकषायाष्षड्रसा इन्युंच्यन्ते, ते च चथापूर्व बलावहाः.

एतावता च जीवजडद्रव्ययोरुत्पत्तौ पृथिठ्यादीन्येवं पश्षमूताने परमं कारणानीति स्षष्टम्, एवं स्थिथे पृथिठ्याकाईौ विहाय शिष्ठानां •त्र्याणामेव तप्वानां परिग्रहेण शारीरकरोगारोग्यवर्णनं-किमूलकं ! ईहरी विचिर्किस्ता न्याय्यैव, तत्र च कथमिमानि भूतानि शर्रारे तिष्ठन्तीति प्रतिपादिते सा विचिकिस्सा परिहृता भवतीति तदर्थमत्र किशिद्विचर्येते.

तथा हि पश्षसु भूतेषु पृथिबิतत्वमप्सुविलीनं, वियच्च वायौ, इत्यतरिशषष्टाने वाय्वग्युदकानीति
तान्येव चेतनाचेतनवसतुत्पत्ती, तेषां समावे च ठयापियन्त इस्यायुवेदेविदां राद्दान्तः:
नान्येव शुकार्त्तवसियतानि खरीरमारभ़माणानि कियाविशेषाद्वतापित्तकफा इति व्यवह्दियन्ते.
 म्लतबणाः कफं, कट्मम्ललवणाः वित्त चं वर्दयनित्त. एवं षड्रसतूर्णेष द्रन्येषु यानि वार्दिं क्षयं बोप-


 उंप्पद्यते स विपाक इति समृतः, स च त्रिधां तत्र मधुरलवणौ रसौ मधुरूरूपेण परिणमतः, अम्लोडम्लं पच्यते रसः, तिक्तोषणकबायाणां पायः कटुविqाको भवति. त एंत ज्रयो विपाका वानपित्तकफान्समीकृत्य चिरं जीवयति.,



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 क्षुद्रान्त्रे वित्तोष्मणा शोषित सारकिट्टरूपेण विभकं इरीरममुपरिनोति. किहं च कटुतां गतो बहिर्निष्काझ्यते,

> एतेनेदमुँ्त भवति, पश्वघु भूतेषु स्थिताभिः पर्षभिरूष्मशक्तिभि: कमेण पार्धिवादिगुणयुक्तानि



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## अनेंतं तत्वम."






एवमेव कालार्थकर्मणां हीनमिष्यातिमात्रको थेगो बातादिप्रकोपणेन रोगकारणता भामोति, सम्ययोगश्न पुनुषेषां दोष्षमीकरणेनारोयं प्रापयति.

## यदुक्ष वाग्मटे-


 भस्यासनाइडतिदूरसथं बिमियं विकृतादि च 1 .


1 Thetitbelblk
 मिध्यायोगसु निर्देंद्धो बिपरीतस्वसक्ष्षः। कायवाकृचित्तभेदेन कर्मा१े बिमजेत्रेषा ॥। कायादेकर्मणाहीना प्रवृत्तिरीनसंज्जिका। अतियोगोडतिवृत्तिस्ड बेगोदीरणघारणम् ॥ विषमाइक्कियारम्भः पतनस्वलनादिकम । भाषणं. सामिभुक्सस्य रांग्हांपभयादि च ॥


 उु विस्तरमील्यां बिरमाम:.







अनन्तरं वातादयो दोषास्तदाश्रया रस़ाइयो घातवश्र वृ⿸्दि क्षयं वा प्रापाः रूक्षादीन्दोषणुणन्पुरक्कुल्य

## एवं ठ्याधिकारणतल्लमझ्मन्मतरीत्या पकर्षेण भपश्चितम्:

एतेनेदेमायुर्वेद्रातिपादितब्याध्युत्पात्तिकारणतत्वं नठ्य -वैद्यतन्त्रनुनारेण एतावता परीक्ष्य निर्णी-


(b) आयुर्वेदशास्त्रे रोगानिर्घारणकमस्तिथां भिघते-दर्शनखपर्शन प्रश्नमेतात्; तत्र दर्शनेन पीतशुक्रुवर्णसंस्थानभमाणोपचयच्छाययविण्मूनच्छर्दनादीनि ज्ञायन्ने.
₹पर्शनेन हसतकायसपझोतेन ज्वरगुब्मविद्रघिछ्छहहयकृदादीन् जानीमहे. प्रश्नेन इूलुरोचकमृदुकुरकोष्ठ
खमदर्शन व्यiध्युत्पत्तिनक्षन्रह्दिष्टेष्टतुखदुःखानि च ज्ञायन्ते.


 नाडीविज्ञानं नाम रफवह़नाज्यां शोणितप्रसर्पणेनोत्पद्यमानसय ₹पन्दविशेषस्याध़ुलिस्पर्शे-




 इति शाख्यताल्पर्यविद अहुः. तः्राऽयं विज्ञानोषाय:.—अझुष्यूलादधाऽङ्भुळम्राणें नर्जनीमध्यमानामिकाङ़ुरीः सममेवर्जु निक्षिप्य किश्धिदिव गाढं निणीडिते ताधु पृथगेव यर्प्पन्दनविशेंषइरोणणित-
 च व्यवस्यन्ति कुशला:-
 राश्र सुख निर्णीयन्ते एवमारोग्योडफि.
चृदे हि बा̀े तर्जन्यां नाडीचपन्दस्सर्पजलौकामूलतादीनां गतितिव बका सेगा च स्यात्. साचेंय तर्जन्यामेवेतरापेक्षया व्यक्ततरेति तन्रैव बायोः स्थानमिल्यायुवेदविदो भाषन्ते.
 पित्तस्य स्थानं भवितुमर्ऱति.

> तन्रैव तस्य स्थानमुचितम्-
करुयराजमाषक्ठण्णमुदूादींनामपरेषाश्व कन्दवर्गादीनiं गुरुरूक्षादिगुणयुक्तानां अन्युपसेवनेन द्रव्याणां जरणसमये विनिर्मुक्तो वायु: ख्वमाणादधिक आध्मानाटेपदी़ीन्विऐोषेणोत्पाय्यापनोदारारूूपेणाजरोत्तरमार्गाम्यां विनिर्गमनानन्तरं--योडवश़ख्यते स रेक्तेनाहाररसभूतेन संमिश्रच हृदयं प्राप्य तस्य

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ज्वववेषका:- एवमितरेष्वपि. तच्चेदं पूर्वरूपं सामान्यपूर्वूपाविरीष्टूर्वर्रूपमेदाव ह्रिवा मिन्नं भवति-




उत्पन्नव्याधिनोधकमेव लिखिं रूपम्. यथा मिएिता अरुच्यादय एव ज्वरः. यथा वा कासासेकादश रूपाण्येव राजयक्षा.
औषषादिजनितमुखानुबन्ष उपशय:. ते चोषष्यादयो हेतुपस्यनीक-षपाशिभ्यनीक-उभभय-

दोषेतिकर्तव्योपकक्ष्षतं ठ्याषिजन्मसंभाष्ति:. सा च संख्या-विकल्प-प्राषान्य-बल-कालविशेषतः पष्षधा भिन्ना. यभा—अष्टी ज्वराः, हिशताःः पमेहाः, पश्ष कासा इति, ठ्वाघीनामवान्तर-


 "आमाशयस्थों हल्बार्मिं सामो मागोंन्पि|ययत्। विदधाति ज्वरमिते.


 भिषबगति.
 मार्गस्तम्यगावुवेंदे প्राशितत:. एवममिदितो रोगविव्जानोपय:.
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 स्मरन्तो वयं "विज्ञानखद्योतविजृत्भिताभिर्बलिमः" किमझि वकुकामा अपूम.





 कस्वाडपि विंत्वादः स्सात्.

न चायुर्वेदोपपादितश्रिकित्साकमश्रिकिस्सान्तराणीव नांक्कालिकमयोजनपराणि ; धपि तूपकम एवायमुपकमो व्याधितानां मनोडभिनन्दयति. आशुकारी चायमुपकमः घुखानुषन्ज:, त ह हेतुप्रत्यनीकव्याधिष्रत्यनीकोमयप्रत्यनीकविपरीतार्यकारीति बहुषा भिन्न:.

तत्र हेतुविपरीते। रोगकारणन्य बातादर्विरुद्धगुणयुक्तानामौषभ।म्नविहाराणामुपयांगन ध्याशिप्रश्मनमेव. यथा-सन्तर्पणोत्पन्मस्यःमदोषस्य तद्विपरीतेनापर्पणेन ल लन्बादिसूपीषबाहारापुपगोगेन प्रश्ननम्. यथा वा— शीतकारणेनोत्पन्नस्य रोगरय तז्कारणविपरीतेर्णर्वर्यैरौषषहारादिमि: भ्रामनम्, यथा वा दिवास्वापचृद्धस्य कफस्य तद्विपरीतेन रात्रिजागरणेन पशमनं, इसें हेतुप्रत्यनीकस्य दिक पदर्श्रिता. यद्योवं कृतेपपि ब्याधिरनुवन्धयेत तदा तं विहाय क्याषिमत्यनीको थोज्यः, एब हि पूर्ब干्मादधिकः.

कोऽसी ठ्याधिप्रत्यनीक इति, झूम: यान्यौषधानविहाराण्युपयुक्तानि दोषादीननपेक्ष्य खमडित्ना ब्याधिपशमकराणि भवन्ति तानि ब्याषिप्रत्यनीकद्रव्या|णि. ताटशक्रयोगां ठ्याधिप्रत्यनीकः. घभा-
 यथा वा—खदिरः कुष्ठ, शिरिषो विषे, अभ्रकहारिद्र पमेहे, खर्ण तर्वरोगेषु, एव ब्यांषमत्यनीककम:. यद्योवमप्यनुवर्तेत ब्याषिः उमयप्रत्यनीको योज्यः बहुगुणत्वात्.

उमयमत्यनीको हि समहिमा वयाथि तत्कारणभतहेनुं च युगपम्रश्वयति. यथा—वातशोफे दशमूलं युगपद्वातहरं शोफम च. यथा वा—वातकफग्रह्यां तरं, तार्दि खनिष्ठरूक्षकषायाम्लादिगुणैर्याघिहेतू वातकफौ शमयति. द्रव्याख्येन सखर्वरूपभावेण तकात्मना व्यार्धि स्रहण्याएँंय शमयति. अनेन सम्यगुपऋान्तेन ठ्याधिरवश्यं जितः स्यात्.

इतः परं तदंश्यकारिचिकिसेपपदिएयते. सा च पूर्वैत्तैर्त्रिभिरव्युपायैयैयन्र नोपशमो क्याषेस्तत्रोपयुज्यते. एष चोपक्रमः प्रायेल ब्याधिसरूपतुल्यः स्यात्. फले तु च्याधिपशमकरो मत्रति.
 मदनफलमू. यथा वा—अतीसारे हरीतकी. विषे वा विषम्. एवं तदर्थकारिप्रयोगस्य दिक् दरितता.

एवं दूष्यं देशं बलं, कालं अनलमित्यंत्रमादन्सम्यव्वीष्य बुद्धचा वितर्श्य हेतुप्रत्यनीकादिचिकिस्सातन्त्रयुक्तीरभिसमीक्ष्य न्नेहखेदवमनविरेचना₹थापनानुबासननस्यादीन्प्रापकाले प्रयुक्षानः कुशको मिषक् क वा रोगसंकरं न जयेत्? तस्याप्यवशो रोगोडवि नाम स्याद्धुवि.

एवमनेकशारवामेदामिन्नस्य परमगम्मीरस्याडयुलेदवटतरोरसस्याबयवशो वर्णनमत्राडसमीचीनमिति विस्तरमीतेर्विरमाम:. यदि कीतुकं चरक-खुश्रुत-वाग्मटादयो ग्रन्था₹तद अभूता वैद्याचन्तामामि. रसरन्नसमुच्चय-योगरनाकर-भैषज्यरन।बल्चादयो ग्रन्थमश्य वीक्ष्यन्तां. ते द्यस्माकं निदानचिकित्साqद्धतिग्रन्था इति.

अपे च मूढगर्माडफिमन्थ विद्रधि नाडीदुष्टव्रणनिरुद्दप्रकश भगन्दर्रभृतिषु बहुछु रोगेषु औषधैरसाध्येषु शस्त्रावचारणमेव समुचितं मन्यन्ते पाश्च अनयुर्वेदतचवविवः. तत्र च शस्रावचरणं
 मेदेन प्रयोगभेदेन च फिलक्षणकानि मवितुमहन्ति, कतिविधं शस्त्रकर्म, कतिषा मिद्यन्ने बन्षविशेषाः, कथं कर्गनासादिषु कपोलात् सरीवं त्वगुक्कृत्य निनेशनं, कथं वा मूढगर्भर्य यन्त्रशस्त्राणां सहायेनाइसहायेन वा चहिर्निस्सारणं, कथं वा तिमिराधिमन्थादिषु श्रस्रमयोगः इत्येवमादयो बद्वबो विषयाः सम्यक्पप्रप्रिता अरमाकं पूर्वे:. यदि कौतुकं पूर्वोका घन्था वीध्यन्ताम.
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अपरे च निमि-काङ्कायन-भद्रश्रौनक-विदेह-गालव-चाक्षुप्य-हिरण्यक्ष्क-काइयप-भोजप्रमृनीनां महतi ग्रन्थाश्र शल्य शालाक्य कायाचिकित्सा मूनविद्या कौमारमृल्याडगद रसायन वाज्जिकरणात्मकाष्टाङ्ग-प्रतिपाद्का:-
(c) विदेशचिकित्सातन्च्रसुखमनुभवितुं द्रठ्यम् अलभमाना अन्ये च रोगिणो वैदैशिक-
 पपन्ना विमुक्तरोगा भवन्तीति सर्वेषां नः प्रत्यक्षमेतत् विना मत्सरपिच्चनिबन्धनाचिकित्यारोचकपीडितानू. तेषां अ्रामनामनिदानचिकित्साद्याહ्येतं पुस्तकं धर्मार्थायुवैवेदारोग्यशालासु लम्पेत प्रत्येकचिकित्सैक: पयेगेछदरा पुस्तकं न रक्ष्यते प्रयोजनाभावाद. यदुच्यते आयुर्वेदपपद्धत्यनुसारेण चिकित्सान्तराण्यपेक्ष्य विशिशष्टं प्रयोजनमुपलक्यत. इति निरूपयतामिति. तत्र बयमपि प्रतिब्बूमः प्रदीयतामवकाशः एवं पदर्शयित्डांमिति, पागाि चोक्त-
 तया चिकित्साभणाल्या कल्पिपैरचिंन्यप्रभावैर्मस्मसिन्दूररसायनघृततैलावलेहासवारिष्टकर्कक्वाथादिक-
 सुपपुक्तेष्वेष्वोषषेषु ब्याधिः कान्दिशगीकत्वं पासुपादिति.
III. (a) चेन्नपुर्यायुर्वेदकलाशालायामध्यापकेष्वन्यतमो Sइम.
(b) (१) विविधेषु चिकिस्स।कमेषु शमनात्मकस्य कस्यचिदेव प्योगस्य यथाशक्ति किशिदिव
सैकय कल्पितम .
(२) प्रायेण समीचीनमेव स्थाने वैद्यावियास्थानख सकलसामग्रसिस्पूर्णस्यैकस्याप्य-
 तत्तह्विद्यास्थानेष्वषिकृतानामनुरुध्य मतं परिहारः कर्तब्य इल्येव वरं मन्ये.
(c) यद्यायुवेदविद्यास्थानेष बिद्यमानन्यूनतापरिहार इध्यते तर्हि राजकीयैराद्रियमाणेषु वैद्यस्थानेषूपयुज्यमानद्रव्येषु यदि कोंडवंयं आयुर्वेदाय परिकर्येत तदा पाश्राल्यवैद्यसंस्थापननिभमायुव्वेदस्थान-
मापे नितरां मबेव्. अनेनाचिरेणैव लोके प्रचारः ₹्यादायुवद्दस्य.
IV. (a) (?) कालवशात् बहुभि: कारणैरक्यासाभावेन मलिनतां गते शल्यतन्त्रे तत्राभ्यासहारा हस्तकौशलं शब्यतन्त्जे नैपुणंध प्राप्तवतः कस्यं चिन्महतो गुरोस्सकाशास्सम्यगध्येतुं छात्रः कल्पनतथा इल्यत्र न कोड亿ि विसंबदेत.
(२) एवं शंब्यतन्न्र खानुमवज्ञानर्मामेवद्धयितुं गुरुणा संहैब पाश्धाल्यश干्यशालाख्व-
तेवासिनां• गमनमाधि क्वर्याऽपि.
(३) एवमेव शल्यतन्त्रे खयमेव विधिधान् विचारान्वर्तायुतुमुचित सौलम्यं सम्पाद्य गुरुणा सह छानाणामपिं-कर्पयितुं को हिं नाम विसंवदेत ?
उद्दिष्टमेतंदिकृत्य न किमपि म्रयन्नमघ यावदत्र वाडन्यन्र वा राजधान्याँ कृतामिति
कथमिदानींी पूर्णों मनोरथ इति शक्यते वक्तुम.
(b) वैद्यविषयोडयमद्याऽसमांक मनित्रणणं वशं प्राप्त इति न वयं मन्यानहे ऊक्ष्यमिददमति-कान्तमर्यादपितिं-
 रोग्यशाला बह्वोऽस्मिन्देशे सथापनीया:
F: कलिकात्ताविश्वविदाल्ययकिचारणासमितेरनुरुष्य मतं करं नाम घक्यत धायुर्वेद ाश्रात्यविकिस्सातन्नं चैकीकृत्य देशेडसिमन्सर्वत: भचारमितुम्
सल्यम्-उमयोरापि तन्त्रयो रोगानित्वन्तिरेवाऽभीप्तितामित्यत्रोमयोः ताम्यां मवितुपई⿸厃 परे



 गतानपि हन्तां तान्गणयन्ति. एवं स्यिते उमयोरेकीकरणमुमयोरेव गीरवं हन्यात्. तस्मात् नास्मिलोे समिमिरिरें प्रयन्नमझ्गीकर्तुमई्छति.


 ज्ञानमुपषृंढणरूपेणाऽध्यापनयोग्यं मवितुमर्हतीत्येतत्तामित्या न भ्रस्मर्तव्यम्.
(a), (b), (c) अन्यत्स्व पाठक्कपरीक्षानियमोत्तीरोपाषिप्रदानादिकमायुर्वेदमहामण्डलनिगमा-

## वालिमनुसुत्व कल्पनीयं मवतीति मन्ये.

VL. (a), (b) आयुवेददवैद्यानां संख्याबेषघकपट्टिकानिर्माणें सइ्पमेबाडनुकूलं, प्रतिकूलं लपरिमितमित्यतो यद्यायुैवैदिकानां समितिवचे यदीदं स्थाप्येत कार्यै तर्ब्यद्यीकतु जक्तुमः, नो छेश्भेति निवेदयिडुं विष्षदामः:
VIII. qाश्रात्यचिकिस्साया विशिष्टं प्रयोजनं प्रयच्छतामस्मद्दशजीषषद्रठ्याला नौमिद्वींपन्तरप्रापण नथा तस्मानूपान्तरंभुत्पाद्य पुनरसमद्रेशानयने थावन्ठगयः स सर्वोडप्यायुवेद्रिचितसीषधानां नेंति मह्रानयमेको लाभः, तथा संपादितान्यौषघानि ठ्ययीकर्तुम् धारिमन् देरो हीपान्तरादानीतान् पाश्नाष्यवैद्यविशागदान् शतशोडत्र संस्थाट्य सहस्तशस्तेषां बेतनदानेन यो महान् व्ययः सो.डपि नापक्षत इति हितीयो लाभ:. अपि च, ऊक्षचो द्रविणं ठ्यर्यकृत्य र्निमितानामादुराणां च कृते साडम्बरप्रासादादी़ीनामप्यवकाशो नारतीजि तृती।यो लाम:. तत्र च प्रासादशिएबरम्रान्तेप्वत्युन्नतूषूह्ययमानपवनेष्वनवरतम् इतन्ततस्सोल्धासं सश्चरन्तीनां घात्रीणां बह्रनां तथा तादृशनराणां च बेतनदानेन


 सथा हि अस्त्यन्र चेन्नपुर्या कैरवणाक्षेत्रे कठवल कण्णव्श्रेप्टिवर्योनिमीमोो घर्मार्यागुर्वेदीषधालयः, अस्ति चात्रैवान्यत्र शूरैलैविभागे चेङ्गल्वरायनायकानां घर्माथ्थैषधालय:. उमयोराप प्रत्यहं माहीमाहत्य सप्तशतसंख्याका रोगिणश्रिक्किस्तां भात्नुवन्ति. उमयोरपि घर्मोषधालययोः प्रत्येकं द्वावेब


 वैव्वमृश्य समितिरेवाऽनयोर्ठ्ययतारतम्यं विदांकरोतु.

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## (२) उदिष्टमिदमबिक्टल्य समितिरियमुणितं परां कर्वर्दतीति.




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श्रीषिन्वन्तरये नम:ح

##  <br> नि. भा अ महाम०्डलस्थानिकसंघापिवेशते स्लीक्टानि ॥ <br> > १. बयमापुकेंद्वेवाधिक्टल्य व्यवहराम: ॥। <br> <br> १. बयमापुरेंद्रेवाधिक्हल व्यवहरामः ॥। <br> <br> १. बयमापुरेंद्रेवाधिक्हल व्यवहरामः ॥। सर्वाणि कर्माणि समाः सन्तो निर्वर्तरन्न्ति ॥

धातवस्तु गथा कस्दचन यन्च्र्य निर्माणाय तदवयवपूतानां फलककीलकनलिकाशलकादीनं संहननाय दाहलोहादय उपादानवदार्था उपक्छता भवन्ति, तहचछहरीबबन्पनाय सामग्रीभूताः
मबा: इरीरसस्यं बचत्सथानीयाये हेयाः पदार्थाः मला इल्वमिप्षयन्ते ॥
अधुना दोषा: किंरुपा:, किकर्माण:, कथं ते श्रारीसणां मानसिकानों च कर्मणां निर्वाहकाश्र
भवन्तीवि सामान्येन निरुप्यते । तत्र一



 बायवी शक्किमिति निणहार्यं।।


 कर्मभि: समावपभावां शररोसंजगुदाति' ॥




 निर्दिघाने सनित्ति। तानि च यभावद尹 किबिन्विंकपयाम:-



 पी़नत जीवन लेपन ल्नेहन पारण पूरण गभोत्पादनानि ययाकमें बर्तन्ने।
 बिपृतित्ब्रेतस्बेहनददीनी ॥

 द्यातवः " हूति ॥




"काइर्षर्षर्मां योगो हीनमिध्वातिमात्रकः।
सम्थप्योगश्न विज़ेयो रोगयोग्येक्करणम । "





$\ddot{B Z}$
इन्द्रियाणां सस्वार्थेनुं हीनामथ्यातिमात्रका योगा यदि स्युस्तेडपि कालवदेंव दोषदूषणहेतवो भवन्तिः तथैव कर्मणामपि विंचार्यम् । एतैद्दोषाः कथं हुष्टा भवन्तीत्युच्यते-
शररे दोषघातुमलाः स्वमानद्रठ्यार्दाभर्भृंजिं तदितरैः क्षयं चोपयान्ताति नियमेन दर्शनात

 रसं किराततिक्तचूर्ण निक्षिप्येत तर्हि अवश्यमेव क्षीरानिष्ठं माधुर्यमल्पीमबति । एवमेब वातपित्ता-

 द्रठ्यं नाम बैद्यशास्त्रे रसगुणवीर्यविपाकप्रभावाणां आश्रयं पाश्वभौतिकं चसु निगद्यते। द्रव्याणामाकृत्या कर्मणा च नानालं तत्तद्रव्यनिष्पत्तौ कारणमूतानां पश्षमहामूतानं तरतमांशसंयोग-

 लेन कैनैव भूतेन किमपि द्रठ्यमुहुवघंत ॥
द्रव्येपु रसगुणवीर्यविपाकप्रभावा इति सन्ति पश्च भावविशोषा:, चैस्तांनि द्रव्याणि शरीरे तत्त-
तत्र-रसो नाम द्रव्येपु विद्यमानो रसनेनिन्द्रयवेद्यो भाबविशेषः 1. सोऽपि षोढा


 कषायतिक्त़मधुराः वित्तं च घन्ति । तथा विक्तकरुकषाया वातं, साद्वम्ललवणाः कफं, कटुकाम्लुलवणाः पित्त च कुर्वते ! एते च पुना रसानुरसभेदतस्तावदुर्कर्षापकर्षतारतम्वविकल्पनया असं1 Pellblt 1 kteot
गुणाः—एते विंशतिसंख्याका भवन्ति द्रव्यनिष्ठाः । गुरुः, लधु:, मन्द्द:, तीक्ष्णः, शीत:r उट्णः, स्रिग्धः, रूक्षः, रुक्ष्णः, परुषः, सान्द्रः, द्रवः, मृदुः, कठिनः, स्थिरः, सरः, सद्द्म:,

 विपरीतत्वान्नाशयन्ति च। वीर्थ पुना रसविपाकादिम्यो विभिन्ना शीकिकः। 'द्रव्याणि येन कर्म कुर्वन्ति तह्वीर्यम्’ इति सुश्रुतः 1 (सु.सू. 8१-अ.) अतो 'रसंत्रिपकपभावगुणसमुदायसपन्नः कोडiq दव्याश्रिते



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 वगि:, अम्लकटुविपाकौ उधनवीयो च सतः । रमेबु मधुरल्लणौ मधुरविपाकौ, अम्छोडम्लविपाक:, तिक्तकटुक्कायाः कटुविपाकाश्न घ्रायो मवर्नीति सिद्धान्नाडऽयाहारपरिणामजन्यफलानुमेयो बर्तते, परमानुमविक्कश्य ॥
प्रभाव:-अयं च कारणानुरूपं कार्यमिति साधारणमयोदामुलंख्य द्रठ्येपु केचुचन हइクन्मानो विस्मयजनको धर्मविश्रेषः। यथा--

> " ज्वरं हरित्त रीरोबत्दा सहदेवोजटा" इशि ।
 च्यवसाय: 1
दोषाणां हि वैषम्यं तेषामुद्रकण क्षयेण वा मंज|यते। दांषा उद्रेकावस्थागां ययासं कर्मण्यिकानि कुवरते । क्षीणावम्थायां तदीयानि कर्माणि जहांति । समा: खकीयं कर्म यग्राबन् कुर्वते।
"य एव देद्रुय समा विदृध्ये त एव दोषा विषमा बधाय ।
य₹मादतस्ते हितचर्ययैव क्षयाद्विवृंद्दिरिब रक्षणीयाः ॥"

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 एवमायुलेदरसिस्दान्तानुसरेण दोषवैषम्यंमव रोग इति निर्षारणे न कापि दृश्यते अनुपपत्तिः। अतो दोषषैपैम्यमेव रोग इति सिद्दान्तः । बर्यापपरिज्ञानविहींना न वयमृत्सहामहे। (B)-रोगानर्धारणक्रमश्याकत्ता च ॥
आधुतिकशास्त्रपरिशोषनस्य कथमテं सिद्धान्तः साधुतां प्रतिपद्यत इति वक्तुं तच्छास्रे. (



रुगणपरीक्षाकमा: ।
दर्शनस्प्पर्शनमक्षै: रोंगिणं परीक्षेत इति 1 तत्र दर्शननम्—अनेनापायेन रोगिण: सर्वाड़ुशंनेरीक्षणं, यन तदानीमाविष्टेन रोगेण तक्ज शरी़रप्रकृते म्मलमूत्रनेत्रजिद्धादीनां अ्वासोच्छासयोश्र के के विकारा जाता इति निर्षार्येते।

श्पर्शनम्— एतेन रोगिणः शरीरस्य तदानीन्तनोपणशैर्यमृदुकांठेनादयो भावा नाडीगतिविशेषाश्र निश्रीयन्ते ।

पश्न:—एतेनोफायेन रोगिणो वेदनाविशेषा:, वेदनाधिष्टानविशेषा:, क्षुतृत्तुंचिपननान्नामिलाषापशधननुपशर्याश्र विचार्य बवनिश्रीयन्ते ॥ एते त्र्य उपायाः संक्षेपतो रोगसामांयोपयोगिल्बेन प्रायराः सर्वत्र समुपयुक्तः । परं तु रुणपरीक्षणसमये शररीररय बाह्याय्यन्तरपरिसिथतींनां निष्छुष्टावनोधाय "पर्षभिरिन्द्रियैः घ्रन्नन चे"ति षड्भिरुपायैरवश्श्य परीक्षा कार्या। विषयस्या叉्य विस्तरः सुश्रुतसंदितायं द्रष्टव्य:।

रेगपपरक्षाकम: ।
रोगपरीक्षणपकारनिरूपणात् प्रागेव रोगाः कतिधा मिद्यन्त इति निरूपणमपि तीन्नर्णयततीकारविषये उपयोगे भ्यादिति क्त्वा सतोकमन्त्र तद्विलिखुयते। रोगासु सहजाः, गर्भजाः, जातजाः, पीिक्टताः, कार्ज्ञाः, पमावज्ञाः, खमावज्ञाश्रेति ससघा मिद्यन्ते । तत्र-
(3) सहजाः-- छुक्तर्तदोषाषान्वयाः पितृजा मातृजाश्र कुष्टारोमेहादयो रोगाः ।
(२) गर्भजाः-जनन्यपचारात् द्रौह्टदविमाननाच्च जायमानाः कौब्ज्य, पाद्युल्य, किखासाद्ययोडनरसजा रोगाः ॥
(३) जातजाः-सन्तर्पणापतर्पणजाः स्वापच़ारना रांगाः ।
(8) पीडाकृता: -क्षतभङ्वपहारकोधशोकमयादयः शार्रारा मानसाश्य रोग़ः ।
(६) कालजाः - शीतादिकृतज्चरादयोठ्यापन्नजा असंरक्षणनाश्र रोगःः ।
(६) प्रभावजा:-देवगुरूब्ठंघन शापार्वर्वादटृता ज्वरादय: पैशाचादयश्र रोंगः ।
(७) स्वभावजाः-कक्षुत्पिपासाज्वरादयः कालजा अकालजाश्र रोगाः ॥

एवं बहुझो|िद्यमानां अपि ठयधये। निजागन्तुतां नैद व्यभिचरन्ति। तत्र निजाः दोषोत्थःः। तेजु पूर्व वातादयो बैषम्यमापद्य ततो ठयथा अमिनिर्वर्यते । आगन्तुजः बाहहेत्रजा मवन्ति । तेषु क्रया पूर्बमुपज़ायते तदनन्तरं दोष्दुष्टिरिति भेदः ।

एताद्धशबहुभददभिन्नान् सर्वानโि .रोगान् एकैकशो यथास्वः निदानभाग्रूपलक्षणोपशयसंप्रामिभिः पथभि: परीक्षेत। एते पर्षोपायाः एकस्यामयस्य निर्धारणेपयुक्ता मकन्तीति- हेतास्तेषां सर्वेषामाि सामान्येन "निदान "मिशि संज्ञा साधिनयसी भवति 1 यतो निश्धित्य दीयत्य इति निददानम्। अथवा निर्दि₹यते ह्याधिरंनन इति वा। तत्र-
(१) जिदानम--सहिताहारविहारादि|भि: वाख्वार्दोनां प्रकोषों रोगस्य निद्दानं भवति ।
(२) पूर्वरूपम--येन लक्षणेन माविक्याधिविशेषो अक्ष्यते तत् पूर्वरूपं भवति ।
बन्ष: 1

 - Hillat: : भापि चैवेविषपरीश्षोपावै:तह. दूवयं, देरा, बलं, कालं, अनलं (जाठार्भी धात्वीि च)
 रोषेन रुग्वर्वनिश्ययः कार्वः। एतानृशकुग्विनिश्रयपणाइ्या सेवेषामपि रोगाणों (नवीनतया समुम्पय्य-







विकिर्सात्व्वम.
 भवति। सन्नर्पणं बृहणणमपतर्पणं लेघंन च सः ।
रेगास्तववद्दोषवैषम्येण जायन्त इति, तेषां दोषाणां बैषम्पमाप हदिक्रवान्मकमिति च पूव्व-
 हार्दिं क्षयं चोपगतान् दोषान् यथाकमं क्षपणेन बर्धनेन च समीकुर्यादिति तिच्चति । अताश्रके-
 घवति । तन्र一
वृृंहणं नाम चिकित्सितं भूमितोयगुणा|घिकः: पदार्थं: फियते। थेन शरीरें बृंबितं मवति । लंबनम् डु यत सथूलस्य शरीरस्य लघ्यूकरण।य कियमाणं तत् चिकिसितं तेजोबाख्वाकाईगुणाषिकेः पदार्थिरुपहितं मवति। एतच्च लंघनं "‘शेषाधनं, शमनं" चेति पुनाद्हधा मवति ।


 रोगेषू तद्योग्यासु चावस्थापु दोषाणां संसर्गसन्निपातादिविविवघविकृतिविशषषू च ऊुग्णस भकृत्यनुसारेण देराकालबलानुतारेण चोत्तमाषममध्यम मेदेनेंहापोहविचक्षणस्य विपश्शितो वैद्यस्य कस्पनाबिद्येषेण मवन्संसंख्येयानि। पकुपितनामुतिक्कृष्टनामुन्महनाय दोषाणां यथा चोघनानि भवन्बलं न तथेतर उपाय:।
M
 कर्यकारणपरामर्शपूर्वकं चिकिस्साविधानेन, साध्यकोठौ गणितान् प्रायशः सर्वानपि विकारानुपक्य
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साघयेतुं पर्याप्रसामग्रीकमायुर्वैदशास्तमित्यस्ति नो मह्रानानुमविको विस्तंभ: 1 एताधशी काचन

 संपाप्य समित्यैव विनिंश्रित्य विदेचनीयोडयं विषय इति । विध्यसिमश्य बादमेव देशीयवैषकीिषसे जनसमूहेषु प्रत्यहमिव समेधमाना ड्कीकारबहुमानादीनां तादृशवैद्यशालापतिकैव बहेदमोघं साह्यमिति।
 रशालाः कति! आअलघर्मवैद्यहालाः कति ! अभार्यितवैद्यकारिण्यः कति ! वैयकनिपुणः कतिः
 रोगगेण: पारिवृणवन्ति इत्यत्र, तःसु वैद्यशालामु दीयमानझच वैद्यस्य प्राशस्त्यमन्तरा हेत्वन्तरं न किभाप परिदृइयते ।
(c) वतरोगा:, मानसिकरोगाः, कुष्ठं, विसर्पः, राजयक्षम, रक्तवातः हल्येतावृशा रोगा
 निपुजैश्न वैद्येबहुकालमुपकान्ताः अलबधोपशमाश्य रोगिणो बाहुछ्येन रोगेपचमनार्थमन्तत आयुर्वेववैद्यानेव शरणीकुर्वन्तीत्येकं साक्ष्यम् । परं च आतुरहीतैकताना निप्पक्षपातिनश्न केचनाङ्रलवैद्यानुपुणाः तदन्तिकमुपगतन् तादृशरोगिणो देशीयवैद्यविधानाय प्रशमत एव पचेद्यन्तीत्यपरं साद्यम्। भकनुभवमन्तरा रेखाप्रमाणानि न संपति विद्यन्ते पदर्शैरुम् । पशास्तिपताणि वैद्यवाणिन्यर्जािकनां सकाशे शतरो मवेयुरेव ।

1II. (a) अतान्ते विन्यस्तदक्षणां ननानां मध्ये (१) एन्. माधथमेनोन् नि.भा.आा., महामण्डलस्प मन्बी, (२) आयुवेंदपूषण के. सुच्नण्यशास्ती, श्री चेन्नपुर्यागुर्वेदकबाशालायामुपाध्याय:, (३) बैद्यविशारदद के. ए. वेद्ञटाचलरारूती, नि.भा.भा., महामण्डलाविद्यापीठयेरायन्ययनिरीक्षक:, (४) अायुर्वेदमूषण सि. भानुबैद्य: श्रीचेङ़.र्तवरायनामकानामनाथारये स्थायिचिकिस्सक: (R.M.O.) तथा तदनुवन्चिन्यां अयुर्वेदर्धरवैद्यरालायां प्रधानचिकित्सकश्र, (६) अायुर्वेदभूषण प. सोमसुन्दरदेवरः, नि.मा.आ., मह।मण्डलर्य स्थानिकसंघसम्यश्य भव्वित्व ॥
(b) (१) न तृषिकरं पर्यां च ।
(२) नातिसमीचीनम् ।

वैद्यविद्यालयेषु तदनुबन्छितयाSSतुरालयानाममावाव् विध्धार्थनां शास्तीयमागु सवैव्वपि प्रत्यक्षज्ञानोपार्जनाय सौकर्य न विद्येते। अतो वैच्यशालनुणन्घितया आतुराळयस्थापनं, शारीरभागज्ञानाय शवच्छेदनानुमतिः, सर्वोपरि पर्यापद्राविण|वतरणेन राजकीयाहीकारश्र तब्मतीकारायालं स्यादिखि विचारयाम:।
(c) तृतीयप्रश्नस
(b) इत्यस्योत्तरमत्रापि युक्तं भवेव्।
IV. (a) (१) अथ किमू.
(२) $\quad \circ$
(३) "

अथापि ताद्टशनानाविघोपकरणसंपादनाय पर्याप्रघनविहीनतया कथंचन निर्वह्यमाणाः सन्स्येब

२) तथा कलिकेटपतने आयैवैद्यसामाजिकानां आयुर्वेदपाठशाला चेतिं। तत्र पथमश्भेन्नपुर्वायुद्वेककलाखयो

 भासींचिराय । अन्यौ ह्वावपि वैधविद्यालयौौ तयोः स्थापकमहाशयानां हन्तावकम्बेन शचरतन एव। परं उु सर्वन्रापि घनवैरैल्यादध्यापनार्य सझुचितसामम्रीसंपादनाय न सौकर्यमात्ति 1 अत एते विघालयाः संपति पर्याषघनसीकर्याभावाव् सम्यक् प्रहुन्तीति न वकूतु पारयामः। ततस्तभ्यो
 सन्बत्रेषामादर्रार्वपद्देखयं पूरविष्यन्त्वतिति वयमभिभैमः।
(b) यदि पूर्वोक्तादर्शससपदनं सहसा दुशशकं स्यात्तार्हिं संभ्रति बिद्यमानानां बैद्यकसंस्यानां प्रथमतो राजकीयाड़ीकारं, तदनु याख़्साध्यं बार्षिक घनसहायं च कृत्वा राजावलम्बो देयः। एवं राजकीयावलंबेन कालोचितं परिष्कां पोषणं। चापिगम्य तास्तामादर्शपदवीमचिरेणोपगमिष्यन्तींस्यन्न न कोडपि सेदेहःः

จ. नि.भा.आ. महामण्डलस्स न सम्मतम् । यतः कालेडस्मिन् बहुत्र दरीदश्येत यदा-

 खवैचशास्वाविमुखा अपि न हइयन्ते। अपि चेदानीं देशीयवैघस्यामिचाध्दिमार्गपर्यालोचनसावसर:, न हि प्राच्यवतीच्चयैद्यश्शास्त्ययोरेकीकरणविचारस। अतो न ज्ञायते विषयस्वास्य का प्रसक्तिरोेते ।

 चढ़ये । रिं तु अत्र देशीयवैद्यशास्र्णणां सतैवषषमेकीकृल्याभ्यसनाय यदि प्रबन्वः कियेत तर्हि तन्महदुपकृनं स्याव् ॥
 प्रयोजनकराः। परं बु आयुवेदेश़ास्त्रीयाणामेंव विषयाणां प्राल्यक्षिक्ज्ञानाय कर्मपथाम्पासोपयोगेनस्तेवमंश्राः पस्तुतकाले उपयोगिनः ₹घु:।
(a) पाठचकमाविषये तु नि.भा.आा. विद्यापोठस्य पाठचकम एव ₹वाकार्यो भवति। त्तदनुसोणेणोपाषिविशेषषश्र निर्घाररियतव्याः। सध्ययनकालभ्ष वियापीठस्सीकृत एव युकः।
(b) संर्क्ठतसाहिले सभाषासाहिले च व्युत्पति: संपूर्णा आवश्यकी।
(c) अध्वापनं, प्रवरकक्ष्या अवरकक्ष्या चेति दिंचा विभज्य प्रवरकष्ष्यायां संस्क्रतमाषचैवाध्यापनतयंं अवरकष्यायां यथासंमवं देशभाषयापि पाठनीयम् ।
vII. देशीयवैद्यानां रांजस्टरकरणं बिहितनेव। तथा रंजस्टरकरणनाममप्रदेशेशु प्रत्यहं पतिक्षचामिव संख्यया वृद्धिमुपगच्छतां अनाझातैवघ्घशास्खाणां अनुतरवादिनां बैघंमन्पमानानां संख्याया भवेत् स्पृहणायः परिक्षयः। तद्वारा अधुना वर्तमानानां अर्धीतिद्यानां हष्टकर्मणां दक्षाणां च वैद्यानामुपरि वृथा प्राक्षेप्यमाणा अपवादाश्र सय विठीयेरन्, यतः पूर्वोक्तानां कुनैदानामज्ञानमूलफोप्यराधः आयुर्वेपापरि समानः खल्ड समापततिं। परें तु द्दानीं सेच्छया वैचठ्यापारमायत्तीक्छत्य

 भयासेनापि ठ्यवरशा विषेपैव । तः-
(a) पथमं तावदझुना विद्यमानानां प्रसिददेशीयचैयानां किमापि मण्डहं संषटनीयम्।
 मण्डकस्साघीनलेन परतन्त्रम्। देशीयवैद्यानां रजिसूट्रकरणे बास्थैव बैखमण्डलस्पांजकारो। विजेयः । इंद वैद्यमण्डलं समुचितेनोपायेन सांप्रतिकानां देशीयवैघानां (गृहीतेपाषिनामगृहीतोषाधिनां च) थोग्यतरं विचार्य तदनुरोषं नियतकष्ष्यानुतारेण नियमितकालाम्यन्तरे अभिलषतां बैद्यानां रजिसृटर कुर्यात्समुचित ध्युल्कं सीकृल। अय तदनन्नरकाले आागच्छतां बैधानां नियामितेपाजिघारिणामेब रजिस्टरकर्तुम् शंक्यत इति नियमश्र निर्मतन्यः । एवं रजिस्टरद्यारा अझीकृताना धबवैयानो पुनयथोचिताधिकाराबकाशादयश्र दातव्यः। अत्र विषये घस्तुतकाले उपरिनिर्दिष्ट्वैद्यमण्डलस्याने निखेलमारतवर्षीयायुर्वेदमझामण्डखमेव युक्तवरं प्रतिभाति ॥
 बक्तुं अभिलषाम:

 तारतम्यं निरीक्ष्य श्रीमी़्रिरेव परिच्छेड़ुं शक्यते ।
 नामीषधवाणिज्यसीकर्यमाधातुं, देशीयैवैद्यानां विविघानां विषोपविषपदार्थानां घहुणिषये राजकीयनिरोधो जातः। हेतुपरिवर्जनमेव तत्परिहरणोपायश्र।

X . ₹टेट्, लोक्कल् बोर्ड, यूनिवेर्सिद्हीस्, इल्याददामिर्वर्तयानकाले कया भणाबया: केन प्रबन्येन च आझ्नखदैघं सर्वत्र संघटितं बर्तेते तथैवायुद्वेदोडीि संघटनीयः ॥
(4) M.R.Ry. Ayurvgdaratiam K. SeshaSastri avargal, Skingrit.
























(b) (1)-ఇశ : ష్లవిF




 నిజురణాయి




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 ాశ్యనైభ్య ${ }^{8}$















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 పపొలిళా గజజత్.



 శూఃరు ซ゙న్నడ గెజట్-) (ఆలంజల్ల విలోనసె-)





## 
















(h) ఆయురవవ్నోయి రాస్



 షయో.
























 జ్లృకిభెప్యె్యపార్ర

 pies) భెపొకితి మువెన్క్రయి-




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(5) M.R.Ry. atorikda Bhobiaka Paxdit M. DURaiswami iYangar, avaraal.

॥ देशीयवैद्यकसमिते: পभ्भानों उत्ठराणि ॥
महाभागाः। इतः परं षष्टपश्नान्तर्गत干ग्र (C) ईति उपशभ्सस्य निवेदविष्पमाणं उत्तर अनुरुष्य गैर्वाण्या नन्वहह विलिखापि उत्तराणि; यच्च, मन्ये, सामोदं मधश्रिर्वीकिंयेत । थधतरणिक
 समवलोकनसमतन्तरमेव, स्यापि कयंचिच् अनुकूलोदर्के भवदीयविवर्शककर्वण:, यस्सल्यमं अमिमैमै, प्रायः सा कडुषेत् आयुयेवेदविदां मनांसीति। अयापि नाहं तब कमीि गुणदोषविचारां अंस्म निक्रों़ः ।
१. पश्नः प्रथम:—आयुवेंदं अभिक्ठत्याहं ठचवहराभि ।
 गैर्वाणामादी,तामनुपुत्य देशभाषानु अनन्तरं च वैच्यक प्रंधाः कमेणावातरन्। द्वविड माषाइमके पू वैद्यकमन्ये पु
 पृथगेतत् मारतींय तृतीयं अन्यादृरं च तन्र्रमिति वयं पभवामो निश्रेड्रम् 1 "सिद्वेवद्यम" इल्येतत

 कर:", "रसरतसमुच्चः", "रेनेन्द्रीिन्तामणिः", " रेन्द्दसारसंग्रहः", "रसराजgुन्दरः" " "रसप्रकाशगुघ|करः", इलेतादृशाः सुबहवो रसग्रन्थाः निल्यनथ-सोमदेव-चन्द्रेतन-गोबिन्द-नागा-

 शक्यते ; यतः, तत् संरहकतरसम्पन्थसमुदावेडपि ब्योभचरति। परं च परिभाषाणां वैपुल्यन, भाषावेशघेन, विषयाणां गुम्मनवैखर्या, भौषघयोगानां विषानकमविवरणपरिपाह्या च संर्कृतरसम्रन्याः (इतेरेडि संरकृनैद्यकग्रन्थाः) पशस्ततराः सूपयोगाश्रेति सकृदेतेषां पठनतः पभवति तटरथमति-
 रपि वैद्यकग्रन्थी: शास्तस्पाधिष्ठनांशल्बेन सनित्ति च्यवह्ततः । अौषघयोगविषये च न खत्ड सांरकृतात् द्राविडं वैयकं कंचिदपि अतिरिच्यते । किश्ष द्रविडवैद्यग्रन्याः रलीषघयोगमतिपादनांगे विशिष्यन्ते संसहृतम्न्थेम्योऽपीति यदुच्येते कतिपचै:, सापि, मन्ये, मूलरहिता वाचोयुत्तिरिति। अगस्यादिभिः प्रणीतानां रसग्रन्थनां तदितरेषां च वैद्यग्रन्यानां सांसछतान्येव आायुर्वेदतन्बांणि
 भन्थस्य आवतारिंक पद्यम्:-











अत्र गेर्वण्यां बिद्यमानान् बहन्त् रसग्रन्थान् अपरांश्र अायुर्वैदग्रन्थान् स्यमधील्य तानेक द्राविज्यां विवृतवान् महामुनिरगस्य इति स्पष्ट समाभितितादते । "तेरेयद् शेखरटपा"





 इति । परं च केवलमिदं काल्पनिकं अव्यवहतेपूवं च शब्दमाबपर्यवसाये नाम ।]
२. (a) दोषाणां वेषम्यमेव सामान्यतः सबैषां रोगाणां कारणं इल्येतदवतिसेस्किसमुत्तरम्।
 किर्थिदिबात्र कियते।

दोषंविवरणम्-(संग्रहः) वायु:, पित्तम, कष.इति च्रय: सन्ति घातव: 1 (घनूनूं सामान्यतः शरीरस्य सर्वस्य ब घारणात् धात्वः इति नाम समुपनतम् 1) यत्मिन् कर्मिंश्रन उविकारे देहस्य सति समुद्रवति, पथमंतः ज्रयोड्येते, अन्यतमी वा, उतान्यतमो वा भाक्रतावस्थां विहाय बलबदनखबव्दा वैक्टतं किमपि अधिगच्छति; ततश्र इरीरमापि दूषयति दूषयन्ति वा। एवं च शरीरस्य दूककलात्त धतूभाममीषां "दोषाः" इति नाम शास्खीयव्यवहारेष अन्वर्थ च रूटं च सममवत्। घांतवः —रसः, रन्कमे, मांसम, मेदः, अस्थि, मजा, श्रुक्ठ (gुसां, सीणां रजः) इति सहिते शरगररस्य धरकाः पदार्थाः त इम वस्तुतो "पातवः " इति, दूषणाईत्वात "दूष्याः " इति
 इत्यमिधीयन्ते .॥

वात-वित्त कफासताबत् सर्वानप्येतान्, आदृत्य पाल्यन्त्ति । सेषां चाबीने तान् स्थापयिल्ता; तद्वारा बदीयानि (विशेषतो धाुसंबेन्धीनि) सर्वाण्यापि बाह्हानि आन्तराणि च कर्माणि कारयन्ति iें
 अभिनिवृत्वम, इति असमदीयः सिद्वान्तः।

## ॥ दोषाणां किबिव विस्तरेण विवरणमझ कियते ॥

दोषाणां साभान्या उपयेगाः-- तः बातस्य प्राकृता उपयोगः:-उच्च्छास-निथ्वासोल्साहअस्पन्देन्द्रिपपाटवन्वेगपवर्तने:, घातूनां सम्यग्गमनेन च देहं अनुगृहाति वायुः । पित्तस्य घाहृत
 माहृतेन चोष्मणा पितं अनुगुद्राति देहम्। क्षेष्मण: पाकृता उपयोगा:—स्थर्य-स्सेम्य-संपिबन्धन-नृष्व-क्षान्ति-घी बहल न्रवाद्याधानैः कफः पालयति देहमू।

दोषाणां विशिष्ट उपयोगादय:-पाश्वमेतिकलं धातूनामिव दोषाणामपि उ्यवहरान्ति मानु-
 दोषर्यैकैकस्य च स्थान-कर्मेंदेः पषात्मकत्व्वस्ति निर्णांतम ।

वाताः पष-(1) प्राणवायु:-अस्य मूर्घा (मस्बुत्रु: मस्तिष्को का) स्यानम् 1 क्डे चोरसि बैष चरति । उुर्दीन्द्दिय-हदय-मनोनाडीषारणम्, हीवनम्, क्षवड़:, उद्रार:, नित्बासेच्चयती, अन्नवेगार्ब्यानि अस्य कर्माणि। (२) उदानबायु:-अस्य सानं उर; क्ठे, नासिषायाम्,
 कर्माणि। (३) ब्यानबायु:-अस्य हदयं स्थानम्; कुस्त्ते देहे $\nabla$ चरति 1 नबात कर्माणि करोति। गतिप्रसारणाकुष्वोक्षेपावक्षेपनिमेषोन्मेष-नुंभण-स्वादन-स्तोतइश्योषन-सेदासक्स्सावण-चुकेरपावनानि, घन्नात किट्टसाविमाजनम, घातूनों तर्पणं चेति कर्माणि अदसीयानि। (v) समानबगुः:अग्रिपरकलां अाश्रित्पष विद्यते ; कोष्ठे सर्वतः पकामाशयांडुपवस्त्रोतस्सु सेचरति; अभ्मि अतः संघुक्षयतिं; अन्नधारण-पाचन-विवेचननकिहाषेनयनकिगः विदधाति 1 (9) अपानबायु:-अपानदेश-
 करोति ।

पश पित्तानि-(१) पाचकम्-आम-पकाशययोरन्वरे बदिदमवतिष्षते; वेजोगुणोत्कर्षात्
 गतामिशब्दं पित्तमिदें अन्नं पचति, सारकिहौ विभजति, शेषाणि च पित्तस्थानानि तन्रस्थमेवानु.
 (३) साधकम्-ब्बुद्दिमेधाभिमानेग्साहाद्दानां संधुक्षणातमकं कर्म यत् विदषावि तव साधके क्षति व्यवाहियते । (8) आलोचकम्-दृी्टिभागमाश्रित्य रूपालोचनरूपं (दर्शंन) कर्म घव कुतो तदालोचकम्। (५) भ्राजकम्-लचं समाश्रिस्य पित्तििदं ऊर्मणा खतेजसा च तामनृतुदाति, अम्यक्र. परिषेकालेपनादीन् पाचयान्त च ।

पश श्रेष्माणः-(१) अवलम्बक:-अस्य स्थानं उरः; खवीर्येण त्रिकस्य, 区दयस्य, غ्ठेष्मस्थानानां च्चोदककर्मणा करोत्यवलम्बनम्। (२) क्केदनकफ:-₹थानमस्यमाईयः; अन्नसंघातं क्रेदयाति, (पाचकपित्तानुगृहातः) पाचयितुमन्नमुपकरतें । (३) बाषकक्रफ:-आस्यम, विशेषतो जिन्ब्वामाभ्र्रित्य विद्यते । रसानां अवबोपषन अदरीयंयं पघानं कर्म 1 (8) तर्पककफः-चथानमस्य
 तेषां पग़्पराश्केषं विधाय, पर्वणां कर्म सुकरमादधाति ।

एवं अञानि अरेषाण्यापि अभिव्याप्य, सबिक्रताः वातादयो दोषा देहं अव्यक्तरूदै: सकीपि:
 ₹थूणा इत्यपि च्यवाहियन्ते । इमे देहं अविकृतःः पालयन्ति, विक्टताश्र विकुर्वान्ति ।

विकृतानां दोषाणां सामान्यानि लक्षणानि-वते विकृते कार्थ्य-काष्प्र-केष-कुरणोष्णका-
 दारिने भवन्ति रक्षणानि 1 पित्ते विकृते पीतत्वक्न्ग्रनीन्द्रिददौौब्बल्योलों्र्रश-शीतांमिळाष दाइतिक्ता-स्यता-तृण्मोहारपनिद्रता-कोष-पीतमलत्व-पीतमूत्रत्-पीतनेत्रत्वादीनि उक्षणानि। कपे विकृते क्राँ्-
 भवन्ति ऊक्षणानि ।
दोषाविकृतेः सामान्यं कारणम्—विविधाहितसेवनं दोषाणां विक्ठतेः कारणं इति - संग्रहः ~ कीझाद्वसरतरसु-(१) हीनमात्रया, अतिमान्वया; मिष्यया बा इन्द्ध्रार्थैः संयोगः; (२) हीनमिध्यातिपात्रात्मकशतीतेण्णादियुक्त: काल: (३) केर्म च दुफ्कुतं इति त् कारणं त्रिविध मवति ॥ अथवा (३) अहितद्रव्यतेवनम, (२) अहितकियाचरणमू इति द्विघा वा ॥ (अयमेव मिथ्याहारविछारोपयोग इति चाभिषीयते II)
अतश्रैष सिद्दान्त:, यत दोपषैपम्यं रोगकारणं भवतीति। दोषविक्वते: विरिष्टाज़े कारणानि-




इतः परं मवाद्र: पृच्छचमानः, अरमदी़स्य सिद्धान्तस्य नठचपरीक्षया शोंधनाहलं कथं

 बिदोधतचच्चस्य नव्वशास्त्रंसमदावानुरोधेन ऊहापकल्पितान्, आनुमानिकांश्र सिद्हान्तककमान् अब-
 समिल्याः भभ्नस्यास्य कथंविदुतुतोपपादकं भधति । (b) अंयुवेंदे रोगविज्ञानविषये (3) रूगणपरीक्षा, (२) रोगपरीक्षा चेति उपायद्यमान्ते । तत्र (१) रुणपरीक्षायाः दर्शनमम, सशशनम, प्रश्नश्रेति चयः साधरणा उपायाः । चक्ष़ष:, जित्ञाया:, मूत्रमखादीनां च दर्शनमम; स्थिरकठिनमृदुलादिविकृताविकृतुतुणविशेशष्टनां अवयवानां, नाध्यादांनां च स्शर्शनम्। शइल大入ोदादीनां विकाराणां प्रश्नः।
(३) नाडीपरीक्षा, (२) मूच्वपरीक्षा, (३) मलपरीक्षा, (8) जिद्वापरीक्षा, (१) शबनपरीक्षा, (६) सपर्पापरीक्षा, (७) नेत्रपरीक्षा, (८) आछृतिपरक्षा चेति अष्टौ विशेश्टाश्न- सन्ति परीक्षेपायाः ।
(२) रेगास्ताबत् निदानमम प्राप्रपम, रूपम, संपाषी:, उपश्येशी पश्वानां अंशानों निरीक्षषद्वारा परीष्यन्ते ।
तत्र रोगस्य मूलकारणं "निदानम"। इं ड़ सत्निकृष्टम, अथ विभकृष्टं इति द्रिघा । [तादालिकः अहित आहारो विहागो वा यदि कमपि ब्याधिमुत्पादयति, तादशः आहारः विहारो वा तस्यामयस्व भवति सन्निकृष्टं कारणम।। अस्मत्तंपदायानुरोषेन कफदोष: शिTशिरकाले
 वयं आानुभविक तच्चर्थमवलंब्य क्यवहरामः। इए वसन्तर्तो समुत्पन्नस्य क्षिल्पिकरोगस्य कारणं
 हेउरिति, तेषां दोषाणां बिकारजनकं किमपि मूलकारणं अवतीति च कथयाम: किल बयम्; तंत्र तोगस्य साक्षात् संबन्धी यो हेड़ः स सी्निक्टष:; स च दोषविकारारूपः। तद्रोषविकारस्य हेडः



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 Pazk :


दिताये नियम:-चिकित्सायां तावत् सामान्यचिकित्ता, विरोषचिकित्सा चेति केचन सन्ति

 चिकित्सायां अन्तर्भवन्ति 1 विरोषचिकित्सास्त कायचिकित्सा, बालुचिकिस्सा, ग्रहचिकिस्सा; ऊर्च्वाझचिकित्सा, शर्यनिकिस्सा, विषचिकिस्सा, वार्जीकरणचिकिस्सा चेति अष्टर्मिर्वभागः, डुनिपुणं चिकिस्सां निर्धर्तयितुं सन्ति त्रिषया विवृत्ताः।
तृतीयों नियमः-तेषु अष्टविधेषु विशेषािकित्साक्कमेषु कायािकित्सा तावत् "शामनम्", "शोधनम" इति द्विधा भवति ।
कायचिकित्सायाः पद्दतयः -बहुपकाराः सन्ति पद्दतयः कायाचिकित्सायाः (१) स्तेहनम्एतत् बंह्यंस्तहहनम, आम्यन्तरस्नेहनम् इल्यादिमेदेन विबिषं मवति । (२) खेदनम्महाखेदः, मध्यमखेदः, दुर्बल्वेदः इति सामान्यस्रयो भेदाः सन्ति; मंत्र विशिष्य 'तु तापखेदः,
 : P 기릴


 -कर्म-इदं रेचन•बृंहण-शमनमेदन त्रिधा 1 तत्र न्नहनं तु मर्श-पतिमर्शभेदेन द्विधा । किश्र प्रगुज्यमानस्यौषपधस्य सरुपानुरोधेन रेचननस्यें अवपीडनम्, ध्मानं इल्यादयोडपि केचन सन्ति भेदाः। (Ө) धूमपानम्-स्त्रेहन-मध्यम-तीक्ष्णानि इति श्रीणि धूमपानानि। (८) ग०ट्बू:- स्नेहनः, शामनः,

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 चिकिस्सायं एतदपि अन्तर्भवति, तयापि ऊर्ष्वत्रुगतानो नेत्रश्रोत्र-गल-तास्वाद्यवयषानो विकतिमधिगनानां शस्त्रपयांगेण कियमाणायाश्रिकित्सायाः बौशिष्टचं प्रदर्शयिनं पद्धतिरसाषारणेयं पार्यक्येन प्रकर्पिता।

आमयानां सर्वैषामापि बयमाचऱामस्चिकित्साम । चिकिस्साश्रास्मदीयाः सुवहृपयोगिंन्ष इति बग।मिव (भिषज इव) जनाश्रेतरेऽपि अभिप्रयन्ति। अागुर्वे दवैघशालाम्य: पर₹शतसंख्याकानों रुणनान अन्वहं आगमनम, आादननं चारमदीयचिकित्तायाः सविस्तंम इल्येतदेव विषयस्यास्य तथ्यतां धबहकरोति। आमयाविनश्र्रिकिस्यमाना अर्माभि: सश्राषं अरमचिचकित्सायाः प्रयोजनं अझीकुर्वन्ति । खच्न्द्नतय। मैषज्यकर्माचरन् एकैकोडपि खाःमना कियमाणस्य चिकित्सितस्य, तत्फलस्य च लेखनं न मापेण यतः समाचरति, ततः केषु केजु संदरेषु चिकित्तितानि अ₹मदीयानि भवन्ति अमोधफलानात सोपपत्तिकं विषय इह न निवेदगिंडुं शकयते। तथापि यसू.के १ि.डि. आयुर्वेदैवैद्यशालायर्वे चिकिस्तितानां ऊुणानां या: किल संख्याः, ये च नाम ठ्याधय: सम्यगस्मतिकित्सया निषरिताः, तेषां उपपादनं प्रत्येकशः संख्यानिवेशापूर्वकं समायोजितमस्ति अनेन ।
(c) आ।म्; व्याधिषु कतिपयेषु, अवस्थान्तरेषु च केषुचन तन्र्रान्नरीयचिकित्सितादवि अयुर्वैदिकं चिकिस्तितं फलेन प्रश्ततरामिति अरमदीयाशय: । पक्षवधस्य, अर्दितस्य च बयमाचरामश्रिकित्साम् । अद्यापि व्याधेरस्य केरलेषु आयुर्वैदपद्धतिमनुसृत्य चिकित्साः सिद्दफलाः सुबहुाभि-
 सम्यक् आयुर्वेदैैद्यैः चिकित्सयन्ते । ठ्याधिभिरेतैः, अन्यैश्न कैश्चन एतादी़ः: अभिपीटिताः रुण्णाः पाश्रात्यवैद्येन अनधिगतम्रयाजनाः पश्रात् अन्केषयन्ति अस्मदीयामेव चिकिस्सामिति ड़नदेवा₹मदीयरोगेपफकमबीशेष्टचः्य स्थितिसथापकं भवति । (यस्.के वि डि. बैद्यशालायां चिकिस्सितानां रुग्णानों अभिनन्दनपत्राणि कानिचन अनुबन्धत्वेन सान्ति भायोंजितांने ; तानि अव्लोक्यन्ताम 1)
३. तृतीयः प्रश्नः--(a) अथकिम्, श्रीकन्यकापरमेश्वरीदेवश्थानायुर्वेदबैद्यालालाया बहं प्रधानो मिषक्।
(b) (१) अद्य विद्यमानाः वैद्यशाला: चिकित्साः सर्वाश्र सम्यक् भाचरितुं सर्वंथा समग्रम इति नं पभवानि अमिषातुम् 1 एताः संप्रiि सामान्यन्वैद्यशाला भवन्ति, न तु आतुरालयाः (अारोग्यशाला वा)। अतो हेतोः, अधुनातनबैद्यशालासु बलीयसां आमयानां उपकमोपयो।गिनः स्रेह-सेद-वसित-शास्रकर्मादयः पघाना बहवश्रिकित्सिकमा न निर्वर्लन्ते। आयुवदिकानि उत्तमानि उरोषाण्यापे औषधानि निर्मतुं रुग्णेम्यो यावदावश्यकमुपयोक्तुं च न हि विशेषतः सीकर्यमल्यासते। अवस्थायाः किलेद्यश्याः मूलकारणं अर्किचन्यमेकत्र, अपरत्र राजकीयसादास्याभावश्र ।
(२) सांभतिक्यः कलाशालाश्र विरोषाम्यासैरवगन्तुमहांन् विषयान् अशेषानपि अवशोधयितुं आवइयकै: अङ्गैरुपकरणैश्र न हि सान्ति समग्रा: 1 समुचितस्य वेतनस्य संविधाने स्रुतरा अप्रमविष्णुतया शास्त्रतच्वावबोधननिष्णातानां वैद्याविद्रुषां उपाध्यायत्वेन नियमने 5 पि अधुनातना: पाठशालःः सन्ति असमर्थः । कलाशाल|मवष्टम्य कष्यचन अतुरालयस्य, शस्तनिकित्सम्य्यसंचितस्यावकाशस्य, औषधोद्यानस्य, सूतिकागृहस्य, धौषघपाकशालायाः, पुरतकमाण्ड।ारस्य च. नाद्य विद्यते संयोगः 1 अस्मद्रुरुवयैँ कीर्तिमात्रावशिष्टै: श्रीमद्सि: वैद्यरनगोपाळाचार्गमहोदयैः मद्रनगरे आयुवैदकरलाशाला कथं चित् पूर्वोन्के: अस्म्र: प्रायेण समुपेवैवामूत् सपादिता; बतश्र सए

कलाशाला समभवत् प्रयेण तदान्नीं आदर्शभ्भवतलयामोदनीया। यतस्तत्र पठितम् पाठितं च मया पाक्, अतः कलाइालायस्तस्याः सांपतिकी दुरवस्या कित्बिदिवामवत् इह सूचनीया ।
 धातुं च नास्ति संमाति संविषानसाम्रीति चस्सल्यमेष सर्वविदितो बिषयः। अयुयेदद्चिकिस्सोपहरण₹्य च, आयुवेदाम्यासर्य च पर्यामतया समभिर्बर्षायातीव समुचितोडरित एक एवोपाय:, यत् राजकीयादारणं नाम । पाश्रालयैद्यस्य पदर्तनाय यथा राजकंचैः बहुपकरेणादरः घदीयते, तथेव
 भेषज्यागाराणां च हढमूल्ञां संपन्नसर्वाझ्गानां च संस्थापनं .राजकीयैयदस्यं भवति विषातठ्यम् -
 (डिपाट्टूमेण्ट्) कोडपि पृथगस्ति नियोज्यः। तत्र तत्र विद्यमाना अंभिवर्षन्गयाश्र पथमता दैद्यशालः ।
8. (a) देशीयवैद्यकतन्त्राणां अत्युत्तमरीत्या अम्यसनविषय (१) तत्तच्छांन्र्: पठनी’ेष शास्र्रिष्ययेषु प्रथमगणनीययेग्यतावतां अध्यापकांनां सविषे माणवकाः (अन्तेवासित्वेन) स्थापनिम्या: इत्येव तथ्यतो मवत्युत्तमः पक्षः । (२) भाम्; आशासनीयमेव भवेत् तत्, यत् सुसंस्थापितरातुरालयै:, पाकशालामिः, ग्रन्थभाण्डागरिः, पदार्थमदर्शैनशालाभिश्राध्यापकानां विद्यार्धिनां च विशेषसीकर्यसंपादनं नाम । (३) खेंषु ₹वषु शास्त्रविषयेषु सातन्र्येण विशेषपरिशीलनादिक कर्तु उपाध्यायाः यथा किल लबध।वकाशाः स्युः, तथा समुचितस्य संविधानस्य स्यादेव विधानं तथ्यतः सांभवम् ।

यद्यपि मनोरथवत्त्तय इमाः पाश्नात्यविमर्शंकदृष्टे: परमोद्देइयत्वेन, घुतरां अभिनवत्वन च भरतिभान्ति, अथापे पाक्रनानां आयुर्वेदम्रवर्त्रकानां मुनिवर्याणाम, मिषजों एतद्देशाययानां अवगतपरमार्थानां च न हि सर्वथा नरीनतया असाघारणतया वा समवभासने; यतः पुराप्येते पायः समभवन् अनुष्ठाने विषयाः; इंति चेत्-तत्तच्छास्त्रुषु विऐेषविदां आचार्याणां अन्ते वसन्त एव माणवकाः शास्त्रममूवन् अम्यसन्तः; अवसितगुरुकुलवासाः, आाचार्यानुज्ञाताः, अधिगतराजाज्ञाश्र वैद्याः सविशिखां बमतुरनुप्रविशान्तः। (दश्यतों सुश्रतरय विशिशखानुपवेशाध्यायः।) आयुर्वैदमिषजो, अांमात् प्रभृत्येव औषधनिर्मणणपद्दतिषु विद्येते स्म सौकर्यै अनुभवसंपांदनर्य; यतः वैद्यानां अध्यापकमूतानां सखगृहेषु सथलान्तरेषु च रसशालादयो भेषजनिर्माणावकाशाश्र, ज्ञायन्ते, सममूवन् इति । भिषगेकैकोडपि सात्मना पकीकृतानि औषधान्येव स्यं विनियुंके ₹म 1 तसमाप् वैद्यानां तथाविधानां अन्तिके ववधामम्यसन्तइछात्राः ओषधीनां, औषधपाकक्रमादीनां च ज्ञानं बमूवुराषेगच्छन्तः । अद्यापि मद्रपुर एव कतिपयवैद्यालाः सत्तित आयूवांदकेन पथा प्रचलन्त्यः। यत्र किल अधिगतशास्रा:, प्रामयं।्यताश्र सन्ति आधिकृता भिषजः। ताश्र यदि किश्चिदिव धनसाहा₹यादिना समाद्रियन्ने, ता एव ततः सुप्रतिष्षं समाधगक्य भवेयु: कामं आदर्शववैद्यशालः। परं तु, मयैवं भवति अभिषात॰्यम्, यावताहं अनैमि, यत्, नाद्य विद्यते ताहृशी काचन कूलाशाला वैद्यशाला वा, या हि नाम भवदापृच्छचमानैः सर्वेरापे अंगैः स्यात् समझा इति। मद्रपुरे विद्घमानानां आयुर्वैदिकानां कलाशालन-वैघ्यालानां यदि सम्यगादरणं अादीयते, मन्ये, अयुवेदेदाम्यासस्य समुचितो मूलन्न्धः स्यादेव निष्पादितभाय इति; यचाहं अभिप्रिमि, न हि किमापे असध्यम्, न वा निरवषिकद्रव्यनिर्वहणीयं कर्मीति ।
(b) अथकिम्; भवन्निर्दिष्टा उद्दिष्टंशाः सनेऽऽपि समग्रतया नाधैंव निष्पादयितु साध्याः । (१) आयुवेदेशय घथावदम्यसनेन तत्र ज्ञानसंपादन्न्, तत्पद्धातिमनुसृत्य देर्चेडस्मिन्




आयुर्वेदाजिज्ञनां (१) सामन्ययोग्गनावन्त:, (२) विशेषयोग्गतावन्त ईंति द्रिया विभजनं कावम्।

उपाध्यायानां निक्मनम्-- पाठकमश्र । सामान्वरीक्षाष्व र्षष्यगं पठनीयमिति बिलिक्रिल्य त्तदनुसरोण विषानकम: दूच्ये। शारीरम्, सस्थचत्तभ, द्रव्यगुणझातम्, रसतन्नं इल्यंने विषगाः: पाठनीयाः प्रथमवत्सरे । रोगविज्ञानम्, सौषषयोग:, काशिकित्सा हल्येते विषया: द्वितीये बत्सरे।


 तन्त्रस्य चैक: 1] पष्षानामापि एतेषां उपाध्यायानां रूप्यकाणां 190 पल्येकशो मासिकं बेतनं उपहतठ्पम् 1 बिशोषपरीक्षार्थ बषचतुष्टयं पठनीयम्.। तत्र शारारम्, खस्पच्त्तम्, द्रठ्यगुणझाबम्, रसतन्ं इल्येते विषयाः प्रथमे बेें। रोगाधिज्ञानम, औषध्योग:, कायचिकिस्ता चैंयेत दितीये
 बन्च्रम्, कौमारभृष्यम, अनुमवशिक्षणम् इल्येते विषयाः चतुर्थे वर्षे। विषयाणां अमीषां बं|पनार्द
 संयोज्यैव विशेषपरोक्षार्थमपि माणवकाः यौगपद्येन पाठयितुं श़干नन्ते। केषांचन विخेषषववषयाणां (मानसरोग-पयूतितन्त्रादीनां) पाठनाथं कद्ष्यांद्वयं पृथक मवनि संपादनीयम् । घत्र च द्वातुपाध्यायो
 भमीषां उपरिे कोडपि महोपाप्यायः (अध्यक्षे वा) नियोजनीयः। यस्य च कलाशालयाया: निर्वहणं भंबति अथीनमू। सति आव₹सक सवासु कक्ष्याव्वपि पविश्य पाठनाव, योग्यताभि: आव₹गकीभि:

 विशेषपरीक्षेत्तरीर्गत्वं स्यान्निण्णेयम्। य: किल परिमितान्, (यावदावश्यकानेक) गुणाह्ञाळ अादत्ते,
 विशेशेपररक्षोत्तीर्णत्वं च परिकर्पनीयम 1]

आतुरालयः—रुण्णानiं अन्यूरवविशतिसंख्याकानां चिकित्सानिर्वर्तनक्षमा संतिषनि: समम्रेरीि सम户ि्वता काचन भवति आरोग्यझाला (आतुतालयो वां) ₹श्शापनीया। अवा विद्यमानाू वैच्यास्वासु यां कामपि आतुरालयन्जेन वां परिवर्तयेत्। संविधानमिदें बादाव्विकतया घुनरामुपयुज्येत ।

तः मिषजी हौ (भाथमिछचय रू. २००, द्वितीयस्य स. २२१).
औषधयोगविदौ है। (Яल्येक रू. ३६).
परिचारकाः ब्वयः (मल्येकं रु. ₹०).
धाग्यः विसः (भल्येकं रू. ₹०).

सेवकाः चतारः (प्रल्यें रू. २०).
संमार्जक एक: (रु. ५).
अवस्करवाहकौ ह्वी (प्रलेकं रू. १).
आहल्य कस्यचन नातिमहतः आतुरालयस्य बैद्यमेवकादीनां निववहणार्य मासिको व्यय: ६१० रूप्यक्रपरि|मितः स्युत् ।
(?) करुशशालविद्यरालयो: कार्याणां इतरेषां अवेक्षणाय व्यवसभापक-्ेखक.गणकसेवकादींनां केषांचन नियमनमपि स्यात् आवर्यकम्। एतेषां वेतनाय रूप्यकचतुश्शती ( $8 \circ \circ$ ) घनधनत्वेन पृथगस्ति परिकश़्पनीया ।
(२) ओषधानाम, रुणणमोजनानाम्, शय्यासनादीनामू, रास्त्यन्त्राद्युपकरणानाम्ं, तूलि. का बन्धनसामग्रीप्रमीनां इतरेषां च वस्तुजातानां अर्थे प्रायेण प्रतिमासं 900 संखुयाकानि रूप्यकागे भवेवुः व्ययंकर्कर्त्यानि ।

अय्य विद्यमानायाः कस्याश्रन कलाशालाया अादर्शमूतंकलाराललात्वेंन समभिवर्षनम्, तथैन च सांभतिकामु अयुर्वेदवैद्यशगालासु काम氏ि काश्रन वा अातुरालयत्वेन परिवर्त्य त干्याः तासां वाँ संवर्षंनं च मनसि अГकलरय कंलाइाल्यायाः, अतुरारयस्य च आदिगं स्थापनव्ययं अधिकृत्य नं कोःप्यत्र सूचिते विषयः । तथापे कस्याश्रन कलुशालायाः समभिवर्षनाय उवक्रमच्ययः प्रायः कूप्यकाणं सार्धसहस्स्य (रू. १,१००) स्यांत् व्ययः 1. (रसशालगय रू. ३००; पुस्तकभाण्डागाराय ५००; प्रदर्शनशालाद्यर्थे ७००; एवम् १,५००)। सांप्रतिकवैद्घशालायाः कस्याश्भनातुराल-
 कानाम्, रायनानाम्, आस्तरणानामू, विर्विधानां पात्राणाम्, वस्तियन्त्रादीनां उपकरणानाम्, मह्नलसोपयोगिनां वस्तुनातानां चकीणनाय द्रव्यमिदं अदौौं अवक्श्यं स्यात् ।)

अतः ब्गयविषयसंग्रहस्तु एवं मवति निर्णेयः-

 अ६,०००) न्ययीकर्तब्या भवति । यदि चतुस्तहस्तरूप्यकाणां इतोडपि अविकरया भायोड्ये, तदानी बत्तरस्चेकस्च रू. 80,000 एव विनि युज्गते विषषेडस्मिन् ।

कलाशालाये अन्र्रणी: बहुगिखेपतम, हर्येयेंकै: अन्वित महत्र संषं बा, अपीिंच्चन्नानि

 सम्यछूनिर्मलीकृते स्थले वा, लुजूपूल्यलम्यैः कटादिभि: आस्तृते वा मूतले छाचा:, पीठिकाू


 एतादृशमेव कैव₹वं बैद्याटत्ते: अहमशशासे । 9. महाशयया! मन्ये, कलिकाताविश्चविद्यारयससिल्याः विप्रलंभगर्मः विषंमान्नई: अमिभाय-














 कलाशालाषु किंचिव् कालं यविदावश्यकं स्यात् ।
非 योग्यतान्यवच्चेदकं आाघिकारिक अभिघनदानं सुुचितं स्याव्। विशेषज्ञानायं कावश्थकोडम्यसनक्कमः।


दयः । (ग) सन्घिविवरणम्-तेषां भेदाः 1 तत्र आाघ्यादीनां संयागः । (घ) पेइयः—तासां मेदाः, उपयोगा:, कण्डराणां खरूपादिकम्। (ङ) सोतसां खरुपाणि-द्वद्यम्, सिरा:, घमन्य:, रसायन्य:, शोणितम्, लसीका इत्येतेषां विवरणम् 1 (च) श्वासारायदीनां विवरणम्, सर-
 दन्त - दन्तवेष्टनाधिजिह्दोपजिन्बन्ननाड्या - माशाय ग्रहणी। सूक्ष्मान्त्र - रथूलान्त्रोन्दुक - यक्टत् - पित्ताशाय-

 चक्रादयश्भ 1 (ज) इन्द्र्रयाणि-नेत्र नेत्रगोलक-दृष्टिनाख्यश्रुकला-पटलाद्यः 1 घाणेन्द्रिय- घाण-मार्ग-घाणनाडीप्रमृत,य: । श्रiंन्रेन्द्रिय-श्रुतिपथ-कर्णपालीप्रमृतयः 1 , (ट) मर्माणि-तेषां स्थानानि, खरूपाण च । (ठ) त्लचः-खरूपविवरणम्। (ड) मलानाम्-तेषां उत्पत्तिस्थानानां च विक रणम् । (ढ) वात-पित्त्र-कफानां तच्व्वम् ।

पाठनीया भ्नन्थाः—चरकरारीरम्, सुश्रुतशारीरम्; वाभ्भटशारीरमेवमादयः ।
(२) द्वव्यगुणाः-अत्र पदार्थस्यैकैकस्य च गुणनाम्, रसानाम्, वर्याणाम्, विपाकानां चं तश्वानि बोषनीयानि ।
(३) रसतन्त्रम्— महारस-साधारणरंोपरस-लोहादीनां सरूपविवरणम्, शोधन-मार णादिविधानं च बोधनीयम्।
(8) सस्थवृत्तम्—दिनर्या-ऋतुचर्यान्नरक्षण-क्यायापादयः ।
(६) रोगविज्ञानम्-रोगाणां खरूपाणि, तदूज्ञानोपायमूतपश्षलक्षणादीनां विनरणं' इत्यादयः ।
(६) कायचिकिस्ता-अष्टाङ्गादयश्भिकित्सा बहुविषाः ।
(७) श्नल्य-शालाक्ये ।
(く) प्रसूतितन्त्रम् ।
(e) कौमारभृत्यम ।
(\} ०) मानसरोगा:
(1) अगदतन्त्रम् ।
(१२) औषघयोगविज्ञानम्।

विशोषपरीक्षार्थ आवइ्यके शास्तरविषयेषु प्रथमतः शारीरभ्य दिद्यात्रं विवरणं कृतम्। इतर च विषयाः सूचिताः 1 विऐेषपरीक्षार्थ आवश्यकानां विषयाणां सर्वेषामवि विस्तरतो विवरणं नि.भा.आा. विद्यापीठानियमावलिमनुस्टत्यैंन भया निबध्यते 1 तथैव च सामान्यपरीक्षाया भावश्यकानां पाठनक्रमाणामपि सैव् नियमावले: समुचिता सूचर्नीति ममाशयः ।
. प्राषान्येन एकैकास्मिन् विषये वा, विषयेषु अनेकेषु वा ज्ञानं अन्यादृशं अघिगत्य, याॅ्यसयापि कामापे अनुत्तमां प्रतिष्षां अधिगन्तुमहाय धायुर्वेदाचार्यः अयवा वैधरबन् इात किमपिं

 तायाः समानेन व्यावहारिकज्ञानेन समन्वितत्वम्। [तस्कालिकतया देशमाषया विषयाणा एतस्परीक्षायै बोघनमपि समुचितमेब स्यात् 1]
आयुवैदमूषणम् अथना भायुवदविशारद: नाटकालन्करोरुपु पाण्डित्यं अनुत्तभम; शबनझासे


क्षण्यं अधिगन्ड़ं समुचिता पवेशयोग्यता स्यात् ।
 तत्ते $े$ शमाषयापि बोधनाय परिकर्यतां नामावकाशः ।
Q. देकीययैद्यानां स़़रूपनिर्णायक्कपंनिका (Begister) सुतरां भवल्यावइयकी। सर्वेषामपि दे यी।
 तदिंद पंजिकायोजनं मवति बह्पर्यंगि । यदि गाढमेष विमृश्यते विषयः, तदानीं देछीयेष्यानामेष





















## 828

वियमानां अनुरोषेन पर्वर्तनाय, कापथेन भैषज्यपण्यं समनुतिषतां निमझणाय ज देशीयैयवेघवंजिका कापि नूं्ं आवश्यकी भवति दूति । एतादृरान्यवस्थायाः परिकइ्पने तावत्, यस्तलं विविषाप्रथमतः समापेतुयेवे केशशः। अथापि, थेन केनचन न्याय्येन बलवता चोपायेन जीवितमर्मूघूते

 कदाचारस्य लिरतममसानमेके अवश्यं कर्पनीयम्।

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## 824



 चिकिस्सा ब्ययेन मवति लघुतरोंति ।

 सममवन्त्, अतन्तरं च राजकीयकृतो मह्रान् अनादरः, नस्य पतियोगितया वाश्राल्यबैद्यंतन्नस्य देगेडस्मिन् आदेशालेन समायोजनमपि आषाय तस्य प्रकारः सर्वैरी अदरणदानं इल्येते भायुर्वेतन्र्रापचयस्य बलीयांसः सममवन् हेतवः।

तृर्यायस्य, चतुर्भ्य्य, षष्टस्य च भश्नस्य मया विलिखितानां उत्तराणां अनुरोषेन कमझो याद. राजकीयःः आयुर्वेदः समाद्रियते, तदार्नी एव, विक्वसिमि, पुनर्दुर्वशतः संदूद्धृतो भोेत्।
१०. राजकीये:, स्थानिकपरिषाद्रि:, विश्वविद्यालयेन, तदितरेश्र . पर्मनिर्वाइके: (तउर्याकाभि: सभाभिश्र) संपति पाश्राल्यबैद्यकतन्न्रं यथा किलाद्रियते यथा चामिवर्ष्यते तथैव (तानेब कमान् अनुसृत्य) देशीयवैद्यकतन्त्रमवि आद्वियतां अभिवर्ध्चतां च ।

## M R.Ry. Vaidyapati G. SIGamani pandithar avargal.










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 ஈாட்வொர் ஆ்்லலண்கி் எळிமா வென்ா றி

 4母ுயையாu் மலஜலடும் வொியாய்ப் 8பாஜே"



 சாமப்பா குருத்தண்ட Qெெ்பயா வாட்டி

 ゅfியா


 அவர்்காி்் சில்்ஹச.



 4 ஸி, 3 பல்் இக்கு இண






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## m.R.Ry., SWAMI VIrUDAI SIVAGNANAYOGIGAL AVAbGal, KOILPatti.


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．அவ்்கன் पொருள் யாலெனிவ்，—
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（3）மருர்மின் பெயா் கூ துய் கிக்்ா．




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（28）Oariபs（Oarimuwris）．
（29）மெழுத．
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（7）कவi் Qזெ
（8）களைச்ச（சळぁぁぁைை்கு மரு்க）
（9） 4 ๔் ண்்
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5．உடவ்க்் 8，அமைー












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（5）மலக்கால்（அபாகா்ா）．
（6）வாங்ப்க்காவ்（ாாகன்ர）．







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（8） $\boldsymbol{\pi} \dot{\boldsymbol{\omega}} \boldsymbol{1}$（サவம்பசா）．
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## M.R.Ry. Pandit Shanmuganandaswami avrranl.






















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## m.R.Ry. K. a. Venkatachala sastriar avargal, Vatdya Vkararada

##  Vaidya Thirtha.



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#### Abstract

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M.R.Ry. Pandrt Vi PONNDSWAMI PILLAI AVARGAL, KUMBAKONAM.

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" The institutes (lndian Medical) fit in excellently with the llacteriology and applied hygiene of the West. The hygiene of focd and water, public conservency, disease suppression and prevention are all carefully dealt with.-Col. W. G. King,




















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"Saliva when exposed to air accumulates a poisonous substance in it." (8) © i.



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9. சாシ்ற



## M.r.Ry. Pandit R.M.K. VELOSWami PimLaI avabgal.

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#### Abstract

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 वிधி்்டர் செய்யலாம்．
 வெண்்ச்













## M.R.Ry. Vaidya Ashbayar S. R. V. Das Aybrgal.













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#### Abstract

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## M.R.Ry. S. V. VAJAPEYULU AVARGAL. h.l.m.s.














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 செய்வன் கெ ெ



Principles and Methods of Treatment.











முன் சொல்னிய जாぁா

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 வும் எவ்விது ப்்ப உெஜ்


 (District Surgeon)க்குத் தভ














## Medical Education.











#### Abstract

   












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Royal Society, British Association for the Advancement of Science, Koyal College of Physicians, Royal College of Surgeons, Royal Chemical Society, Royal Zoological Society, Royal Geographical Socicty, Royal Microscopical Society.










## M.R.Ry. K. VEERASWAMY NAIDU Garu.

お్శ సైఐ
ప్ర త్లు త్త ర ము
1 ש శ్వేదఖాగ దునుగూర్చి


 యమాల నఁతగా కళగయ నంఅచచునదియ సాయభి(పాయవ

 ని దానపం చక మువలనను, రో గని దానము చేయవలయ



 కూలములయుయున్నవిి నా ద్ృఢాధ

 వలన Kుణముక నుపించవి సన్ని పాతజ్వరమా (Typhoid fever) Dిమ కుశీతజ్వరక00 (Malaria)




 రోKసంహారక వైద్యశాల" అను •పీతో అంఖొటోపేట (గామన్లో నేను 1896 న సంవ త్సరమ1ల




 నైకొల్పవ లెనరి నా యభి(పాయమా.
 దనుభవముగలపారిసైుక లen పర్పగచుటవలన నీకొఱతతీఁునని తలం చెదను.
 స్వల్పము Tానున్నవి ాాని వానియందుగాడ పైని జెప్పిన ఆదగ్మస్థిత సంపూర్ణవూగా సద్ధ్రై యున్నదని సేను తలంపను.
 అనుస్టానముల్ ప్ప్ట్రలయునగి నా యధి,పాయమా.
 గలవాి యాజమాన్యమున కొన్ని సంస్థలలు పర్సరచి ఉభయ వైద్యవి ధానములందును దగనంత మంది విద్యాళ్థులను శిష్షతుఅ గా జేయన లెనని సేను సూచిం చెదను．
 యు ర్వేద వైద్యమఁడలివా రేర్సణఱచియున్నారు．దానికి నేనుగూడ నంగీక $ి$ చెదను．

 ผ9 పరీజలను నందు కేర్పడిన ప్టష్లును నేనుగూడ నా మోదిం చెదను．
 （పాయము అన్భావవైన్యలయొక飞 య，ఉ త్తీర్ణవైద్యులయొకఈయు，నామమాలు మెడికలు \＆జ్టఁరల చేర్చవలయుననియు ఇట్టివాగి నిర్ణయించ：$\omega క ్ ~ ఆ ఖ ల ఖ ా ర త ా య ు ~ ర ్ వ ే ద ~ య ా న ా న ీ ~$
 ชలం చెదను．
 లసెన యోషధులే దేళమున నే దొరకుటయు，అవుషధములు చేయ చేశీయపధ్ధతు ．లెకు－వ
 （వవారముచేయు ఐిక్సలలో నుపయోగపడు అవుషధములన్నియు దార చేశములందు మికికలి

 యితర చేళములనుండియు eవుషధులను దిగంమత చేస్కొని యచ్చట నాపధగులు చేయుట చేత


డ్రఫ్వమువారి యాదకణ లేకపోవుటుు，అనుభవముగాగి，శా ఎల్లరవైద్యుబుకూడ వెగ్యముచేయుచు二డుటయు，శేశీయ వైద్యవి फానములజణతకు కారణము


 స్ట్రేకను పెట్టుటవలననుు，పైని చెప్పిన ప్ర ఠారము చేశీయ వైద్యవి ద్యాశిజణము నొసంగ వి ద్నాల
 డునల నయభిపపాయము．
 వత్సరముతగనంత（గాంటులు ఇచ్టుటచేతను，
（1）eresలు యో ర్డువా飞కాడ తమ బోర్డుల కింగ నిప్పటి ఇంగ్నీ，ఆస్వత్రులవలె
 సె విళ్వవి ద్యాలయమువారు శేశీయపండితులను పోత్సహించుటకు విద్వాణ，శిరోమल

 తమ విశ్వవి ద్యాలయమునందు โ్రవేశ పెక్టియు త్తర్ణులయ న వారికి బిళుదములిచ్చుటచేతన，
 సాయమున్నను లేకున్నను సాధ్య ైనంతవఉకు లామ వీదలకు చేశీయపద్ధతులప్రకారము చితముగ० వైద్యసాహాయ్యము చేయ చిక్ త్సాలములను నెలథొల్పుటచేశను，చేశీయవైద్య
 వారనిజంపుటచేతను，





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## M.R.Rt. A. Subbaraya Pandit Avabgal.




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# PBOCEEDINGS OF THE COMMITTEE ON INDIGENOUS SYSTEMS OF MEDICINE. 

Oral Examination of Witnessbs.

The Cammittes met at the committee room of the Douncil Chamber, Fort St. Georgs, at 12 noon on Monday the 25 th September 1922 :-.

## Prigent:

(1) Khan Bahadur Muhammad Usman Sabib Bahadur (Chairman).
(2) Dr. A. Lamsimipathr.
(3) M.R.Ry. M. Subramanixa Aypar Avargal.
(4) " C. T. Arumuaram Pillai Avargal.
(5) . " K. G. Natesa Sastri Avargal.
(6) " - T. R. Ramachandra Ayyar Avargal.
(7) M.. A. T. Pal,mer.
(8) Dr. G. Srinifasamubti (Secretary).

## The Committee proceeded to examine witnesses.

## First witness.

Replying to the Chairman, Mr. P. S. Varier deposed as follows: I am the Seoretary of, the Ayurvedio samajam. I am also a medical practitioner. 1 praotise Ayarvedic system. I nudertake the treatment of all those diseases that neually ocour in my part of the coontry. It is not nusual to deal with Ralasar. Dengue, etc., fevers in my parts. If these fevers should ocour there, they will be treated oxaotly as sannipada fever is treated. In the majority of eases that I have treated, I have been accoessful. I have got a medical school and hospital. of my own. I have got in-patients as well as out-patients. I have not got ready now a etatement showing the number of cases $I$ have treated with the peroentage of sucoess. I will send such a statement after my return home. All olasses of poople, both rich and poor, thei ednoated and the illiterate resort to $m y$ treatment. I am using quinine for malaria in the initial stages. I have no objeotion to utilize such things as are uegeful in the western systems of medicine in our treatment. I administer quinioe as temporary remedy and then I resort to indigenous medioines to effect radioal oure. I am generally of opinion that it would be advantageous to incorporate western methods of surgery into our aystem. As things stand at present, we require the aid of 8 western practitioner for performing operations in cases such as hernia, oarbunole, ete If Government gire aid, I have no objeotion to incorporate western surgery in the Ayyrvedio system. Regarding the cost, II am of opinion that the eastern medicines are comparatively cheaper. If $I$ am nsked to give the relative cost of two presoriptions for a particular disease, I oan give at ence. After my retarn home, I will send a statement showing the cost of medioines for a certain number of patients both acoording to the eastern aytem and the western system. In our system there are certsin presoriptions which are of great value in all oases of mental and nerrous diseases. I have in my hospital record. to ahow that I have sucoeeded in certain cases of nervous diseases where the Einglinh dootors have failed. After my return home I will send a list of saoh cases. At present we have not got sufficient number of good physioians to deal with all cases that arise. I have a western practitioner attaohed to my hospital where I train students. I give forr years' training to my students. The sourse of study comprises the reading of Ay urvedio books and dissection on small animals suoh as hare, sheep, eto., but not-on human bodies. If Government give faoilities, I have no objection to tosch my students diesection of haman bodies.

Replying to Mr. Palmer witness said : Training in diseotion will help oar systom of medioine. 'I'raining in the struoture of human body may not be neoesaary from the point of view of treatment, but it may be helpful to understand anatomy. A knowledge of Eaglish physiology is not at all necessary for our system. The functions of the various organs of the human body are desoribed in our own a ghastras.

Reptying to the Chairman, the witness snid: Our own shastras desoribe the haman body, but there are oertain portions which are very obsoure: If modern physiology could throw light on those obscore thinge, then I have no objection to incorporate such portions of the modern physiology into our system. A knowledge of English may be neoessary if stadents are taught both the systems. Bat if there are good text books in the vernaculara, then, there may not be neoessity to know English. For the time being, it may not be possible for the Ayurvedio practitionera to get on without the aid of the western medioal men except in cases of minor gurgery. I have performed certain minor operations exch as in coses of boil, syphilis, eto., I have used Ayurvedio ointment in suoh oases. Medioal registration is necessary in my opinion!

But I am etrongly againet the regintration of all the quack doctore At preent people whe have not got sufficient fnowledge in medicine are allowed to practise We shovid register ooly thome who have had come training. Wo will have to proceed wore or leen on the franotice bacia If we can get all people to attend an oxamination it will be well and good. But there are certain elderly people like 'ashtavaidyens' who will not care to attend an examination. Oa that score we ahould not loes their valuable services.

Raplying to Mr. Palmer, the witness said: I inane tro diplomas to my atudente, namely, the Vaidya and the Vaidyasiromani. The examination consiits both oral and proctical, I may add that I bave not granted till now the Vaidyasiromani diplorna to anybody.

Replying to the Chairman, the witnese said: It is better to have a medial board consisting only of Ayurvedio practitioners. If it is not feasible, the present hoard may be expanded by the inclacion of certain number of $\Delta y$ yrvedio practitioners in it.

Replying to Dr. Lakshmipathi, the witness said: There are oartain surgical diseasee like diabetes, oarbunoles, eto, that can be more effeotively treated by the $\Delta$ yurvedio medioinee than by surgery. Detaile of appendioitis are not given in the Ayurvedio ayrom. As for pile and fistula, I think it is better to apply some kharam. Wo noually coll malaria oishame joaram. At first, I administor quiuino as immediate remedy, and then I give ayurvedia medioine to counteract the bad effeots of quinine.

Replying to Mr. Palmer, the witness said: We mast depend apon the 'Thridoshas ' or the three humours. Our Ayarvedio aystem is entirely dependent apon the belief of the three doshas. I believe in the oiroulation of blood. There are oertain verses in Sanakrit relating to the ciroulation of blood. As far as smallpox is conoerned, inoonlation may do good. It he quite possible that the essence of a drag may bave different ourative propertien from the drug itself. I think restriction of diet is extremely necessary so far an the Ayorvedio aystem is ooncerned.

Replying to Mr. Arumugham Pillai, the witness asid: Mr written atatement to the Committee was prepared only in referenoe to ayorveda and to the Sanskrit books. I have not touched on any of the Tamil books, nor do I pretend to have any knowledge of the Tamil books.

Rephying to the Chairman, the witness 'said: Plagne is not trested by the Ayurredio physioians owing to Government restrictions. There are certain diveasea which nooording to the western system can be oured only by surgery but whioh acoording to the Ayarvedio system oan be oured by the application of medicines only. As instanoes, I may quote oarbanoles, absecess, piles, fistulae.

## The next witness examined was Mr. K. C. Subramaniyam Pillai.

Replying to the Chairman, the witness said: I praotise both Siddha aud Ayarvedio systems of medicine. I think the two systems are not different bat they are one and the same. The Siddha aystem is to be found in the Tamil land and the Tamil books. I think the origin of the Siddha system is the same as that of the Avurveda. I had my own dispensary formerly, bat now I have not got. I am now practising in Pollachi. I am able to treat all diseases under our system with aboat 75 per cent anccess. I do not at all nee any Énglish medicines. I condemn quinine because it has very bad after effects. It affects the ear nnd produces headache also. Persons who take quinine fail to derive any good from other medicines of Ayarveds and I therefore do not use quinine. I am able to oure malaria by my drugs as quickly as oan be done by administering the quinine. I have cured one foreet ranger, Mr. Rama Rao, who was suffering from malaria for over fifteen years. In about 10 or 15 days I was able to oure him by my drugs. He had not only malaria but aleo diarrhcea for a long time. He told me he was taking quinine from a very long time but that he got no relief therefrom. I do not deal with surgiosl cases. As for midwifery we have got our own midwives in our places. As for eye diseases, we apply our own medicines. Hecently I was able to oure cataract by the nee of lotus honey. No doubt the lotus honey is very costly. We bave also some 'kan-tbailams' whioh cure some other eye diseases. Surgery was in existence in our system in olden dayn. In the English translations of our books, edited by Caloatta dootors, you will find that a large number of scientifio instruments are named. They were all haudled hy our ancient rishis. Unfortu* nately, they have fallen into disuse. As the present day market is so obcap, anoient aurgery has deteriorated. The western system predominates everywhere and we are left behind.

[^10]members practising the Ayurvedic medicines are added to the present board. Bat eventuaily $l$ woald like to have a separate board of indigenous medical practitioners. In the beginning registration may have some bad effect on some in the shape of loss of income.

Replying to Mr. Palmer, the witness said: The cases of leprosy that I undertook were like syphlitio sores in nature. They produced bad matter and also bad smell. There was also the dimination of the hands day by day. In cases of blood poisoning we have got 'mathirais' to administer. In the critical stages of paenmonia and typhoid, we have been instructed to give these " mathirais 'in order to counteract the blood poisoning. I think the Ayorvedio medioines are cheaper than the English medicines because the former are easily procurable from the bazaars. Some can also be got in our back yards. As regards purity of the drogs, we must get them purified. Even milk is adulterated with water. We get our lotas honey from Calcutta and Simla. To test its purity we have got our own teste. The lotas honey has apecial characteristic for the taste. I think all the diseases oan be diagnosed by feeling the pulse. If the patient is able to give his own state of the disease, where is the necessity to feel his palse? It is only when the patient is unconscious that we have to feel his pulse and ascertain the nature of his disease. As for the term 'humour' for the 'thridoshas' I cannot say anything. That was the name given by experts and I cannot vouchsafe for its acouraoy. Probably it was given in a humourous strain. By feeling the pulse we can discover the combined actions of the three hamours.

Replying to Drr Subrannansya Ayyar, the witness said: For 'prasava jvaram' I do not give the medicine which I give for ordinary fever. I have got some medioines whioh car olean the uteras.

Replying to Dr. Lakshmipathi the witness ssid: 'Karnnohirakam' and assafoetede are also very effective as uterine oleaners.

Replying to Dr. 8ubramaniya Ayyar, the witness said: I think all the old modical practitioners should be registered. Reputed physicians, or physicians who have a good knowledge of medioine may be registered. You should not consult medioal men for registration. You mast consult the revenue authorities, for they will give their impartial opinion, Medical men will be jealous of each other.

Keplying to the Chairman the witness said : I have often issued certificates to my patients. It is left to the disoretion of the courts to give weight to them or not. At first I give a certificate to my patient; and based upon that certificate a western practitioner gives another on receipt of some fees. I do not feel any diffioulty in not being able to give a certificate which will have as much effect as the one granted by a western practitioner. I want the registration not for my own sake but for the protection of all.

Replying to Mr. Aromugam Pillai the witness said: If it is decided that only persons who have practised mediaine for not less than five years should be registered, there may be many people forthooming. But those who do not get themselves registered should not be prohibited from practising the Ayurveda. As an instance I may quote that the High Court when it decided to prohibit all private vakils from pratising relaxed this rule in the case of those private vakils who were practising sinee the year 1889. By reason of having practised for over thirty years, they beoame entitiled under law to continue their profession undistorbed. Similarly, in the case of medicine also, a rule should be laid down that such and suoh persons who were practising prior to such and suoh a year should not be prohibited from practising beoanse they have not got themeelves registered. All old people should be encouraged in this profession. For the saying runs: 'Bala-josyam' and 'Vriddha-vaidyam'. I think colleges should be opened for the training of people and also the necessary text books should be got written by the Government. I may also add that there are some people who have specialised themselves in particular diseases. They will be able to treat only that partionlar disease and no other. On that accoont, specialist should not be debarred from having their name entered in the Government medioal register. We must also give the specialists a diploma in that branch in whiob they are proficients.

The next witness examined was Mr. V. Narayanan Nayar.
Replymy to the Chairman the witness said : I own a private dispensary. I am not connected with any pablio institation. I was trained under Nilakanta Varma. I try all the cases that come to me. I am able to cure all sorts of fever. I treat 'kalahazar' and 'Dengae' just as I treat 'Pithajvara'.

Replying to Dr. Lakshmipathi, the witness said : In the case of new diseases, I diagnose them under the proper 'dosha, and treat them acoordingly. I have been praotising medecine for the last over 15 years. If a new disease comes, all that is required is to olassify it under the proper derangement of 'dosha'. According to our shastras we can diagnose any disease.

Replying to the Chairman, the witness said: I have never need any English medioine during the whole of my practice. For malaria, I do not use quinine, but I use ' panchathiktha kashaya' " Rambana rasa 'and 'Chintamani rasa '. I have never used quinune till now. I do not undertake surgioal operations. If I get any, I send it to the looal medical practitioner for treatment. I have been treating eye diseases: If there is any derangement in the vision, I wilk give oil and mediaine internally. Surgery is mentioned in our shastras. But it is not praotised
saywhere in Sonthern India. There is no doctor in Soathern India who oan bench surgory as laid down in our Bhaetrem. No doabt the theory is mentioned is our bonks brit wis heve no proctice. After getting trainiog from allopathio dootore we oen praction surgery cocording to our Shantras. In order to be a complete dootor midwifory aleo ahould be tanghi. Oar prosent practioe is defeetive.

Replying to Dr. Lakehimipathi, the witnees said: There are many points in Susbrate whish - modern physioian can leara with advantage.

Replying to the Chairm an, the witnens asid : The indigerous modioines are cortainly obeapar. If colleges are established by Govornment. I du not think it is necossary to tesch the atadonts in English. For praotising Ayorveds it will be of adrantage if he knowa English, heoanea he will be better appreciated by the etucated poople and be oan aleo interprot hio theory in modern langnage suitable to the modern mentality. I think medioal registration in neocesnry It would be preferable to hava a separate board. I have onred oonsumption, with bleeding, eto., which has been declared inourable hy English doctors. Tbere are saven variotios of leproyy. Diabetes in its preliminary otages can be oured ensily. We oan open boil by applying modioine exteraally.

Beplying to Mr. Palmer, the witness asid: I have read Asthanga Hridays in 8anakrit. Every dootor has also to learn the making of medioines. A man oannot be oalled a doolor unloen he knows how to propare modicines. Under the Ayurvedio aystem a dootor is both a oompounder and a nurse. Preparing medicines is merely compounding herbs. There are aleo people who know only how to make mediaines. Tiney are merely 'aishyas' or dieoiples 3 , they onnnot be called regular dootors. Ashtangahridays is composed of eight parts. The propertiee of medioines are given in our Shastras. We have also Hygiene in our ayatem. Cholera germe oan be killed by boiling water. There are also aeveral other methode of antiesptice giron in our Shastras.

Replying to Dr. Iakshmipathi, the witness enid: The drugs are olasaifled in Afarvede according to their properties on bodies, like pargatives, eto. There is a drug for inoreasing the flow of milk in the mother, another drug for parifying the blood. There are 56 olaseifioations in Charaka. In Shusruta it is something more.

Replying to Mr. Natesa Sastriyar, the witness said : I was osilled by His Highness the Maharaja of Baroda to treat an advanoed case of akin disease., That wne some aix or eight months ago. I went three tim3s to Baroda. The Mabaraja'e case was sured. He whe suffering from insominia. The Maharani was not oured.

Replging to Dr. Subrahmanya Ayyar, the witness said: I have treated oases of Tetanua. $_{\text {a }}$ There was lock-jaw, fever, sweating, and obstruotion of arine.

Replying to Dr. Lakshmipathi, the witness said : I have not heard of Suobikabaranam, i.e. the injeotion of medioine through the needle. I have not practised that sort of thing, and I have no experience of that.

Replying to 3 . Arumugam Pillai, the witness said: As far as I know, it is trae that Ayurveda beoame separate from Unani. I have atated in my written etatement that the Unani may be kept separately, beoanse a olass of people desire that it ahanid be s). All that I have atated in my written atatement regarding Siddha Vaidya is derived from a knowledge obtained from my association with Tamil physioians. I have not read Tamil books in original.

Replying to the Secretary, the witness said : I oan diagnose any new disesce according to the 'thrithosha' prinoiples. In treating a now disease, we cannot lollow the 'Samprapthi' laid down by English doctors for that partionlar disease. If we do so, we will tail in our treatment. Our treatment is based only on 'thrithosha' theory, without recognizing which a man cannot give medicine. By diagnosing the derangement of 'thosha' we oan decide previously what is going to occur later on; But I have no objeotion to take the knowledge from Engliah books regarding the ' enmprathi' of new diseases. But it is no use for an Ayarvedio physioisn to know the temperature of the body. I think it will be advantageons if we incorporate in our futare text-books all that is good in the Western aystem as well. So long as the 'thrithosha' theory is not giveu up, there is no objection to incorporate any knowiedge from the English books into our books. By 'Arthakari' treatment is meant treating a disease by prodociag a similar condition. This prinoiple and the principle of vaccination and inooulation eeem to be the same.

There are certain books which describe how we cen asoertain the Ayan. They olearly desoribe the ' sadhia-sadhiya, the 'Ayn pareekshai', i.e., prognostication is inoluded therein.

The next witness examined was Mr.C. V. Subramania Sastri.
Replying to the Chairman, the witness said: I am conneoted with a pablio inotitation in Tirupati. There is a sobool named Sri Venkatesa Ayurveda Patbassla. There is a dispensary attached to the school. I am a lecturer therin. There are 20 stadente at presen". Tbey undergo a fonr years course. We take only outdatienta. Kalaazar and Dengue come. rarely in our parts. I remember some oases were treated in Kannikaparameewari $n$ ispensary. When I was senior physician there, I eared some cases of Kalazar. I will eend later on a ptatoment showing the number of oases treated and the percentage of sncoess. All kinds of people, hoth rioh and poor, resort to my dispensary. I do not at all nee any English drugs. For,
malaria, I use 'panohathiktha churna ' Anande bhairavi '. I was trained under Pandit Gopala, eharla. I do not know surgery. I do not take surgioal cases in my dispensary. We undertake only simple wounds. Our dispensary is defeotive so far as we are not able to undertake surgical oases. We are going to introduoe that systam next year. We intend appointing an L.M.P. As there are at present no persons in our system trained in surgery, we are obliged to have recourse to a western practitfoner. There is a teaoher attached to our patasala who teaches anotomy. We teach dissection on small animals sach as rabbit, sheep, eto. If Government sheuld give the neoessary facilities, I have no objeotion ta teach dissention on human body. Regarding the question of cost, I think the Ayurvedic medioines are oheapor. In oar dispensary, the cost of medicine per head is from 11 to 12 pies. I prefor the indigenous system to the English system for various reasons. India's climatic conditions and the habits of the people are not suitable for the English system. Our ancestors have written several useful books on Ayurveda. As we are born and bred up in this country, the herbs that grow in this coantry will easily care all our diseases. The herbs give us the partionlar 'bhatha' that is panting in us. I am certainly successful in all the cases that I treat. I never use quinine for fever, beoause it has a very bad effect on the system. Now, the western practitioners themselves admit that ursenio has a very good effect in oertain cases. Our ancestors were giving 'ohanka pashanam' as much as a needle point and it had very good effect on the human body. The English people, too, now admit the efficacy of arsenio treatment. It was recently discovered that ' konda sasavu' had the same curative properties as quinine. This 'konda kasava' is very cheap. It ean be obtained in large quantities for two annas, whereas. quinine is very costly. Besides, the 'konda kasavu' has no bad effects that 'quinine' has. I have also found from my experience that ' konda kasavin' effects a radical oure.

Regarding surgerp, I may say that it onoe existed in our system but it has come into disuse of late. From my experience, I may say that operation in cases of earbuncles are not generally successful. I know that in some cases of earbuncles, success has been obtained by administering medioine. When the late Mr. V. Krishnaswamy Aypar was ailing from a carbuncle, I was one of thnse'who were invited to attend upon him. Myself and the other Ayarvedic doctors that came along with me were of opinion that the carbuncle should not be operated upon; but the English dootors held otherwise. They did perform the operation much against our advioe and the result proved fatal. I oan also oite the instance of a gentleman in Kalahasti named Parushotamayya who was successfully cured of a carbuncle by a raju with the aid of leaves only and without resorting to operation. It took about six months to effect 2 complete cure. There are cases of carbunoles which require operation and there are others which require no operation. These things oan be ascertained only by studying the symptoms which are olearly laid down in our books. Therefore in Ayurveda we oan treat certain cases sucoessfully which are pronounced to be incurable by the western doctors.

Replying to Dr. Lakshmipathi, the witness said: 'Sanka pashanam' mixed with card will have the effect of deadening pain when we cut a wound with a snife. There are -also some other medioines which can make a wound burst without the necessity for a knife. We teach our students in Telugu and Sanskrit. There are not enough funds to translate the Sanskrit works in the vernaculars. If Government give funds, then we oan easily translate the Sanskrit works into the vernacular and make them easily available to all the people. I think a knowledge of English is also essential to our students. We have certain disabilities at present for want of registration. We oannot grant certifioates of ill-health to persons who are summoned to courts while they are ill. I think all the indigenous medioal praotitioners should be registered. There must be some comnittee or the All-India Ayurveda Mahamandali may be requested to select candidates fit for registration. At present we cannot restrict the registration only to thoso who pass an examination. In the course of some five years more, we oan restrict the registration only to thoss who pass certain presoribed exvminations. I think it would be advantageous if we have a separate board for the practitioners practising the indigenous system. It is also essential that there must be a provision in the Aot for an appeal to the High Court by the aggrieved person.

Replying to Mr.Palmer, the witness said: [ oharge frum Rs. $\dot{2}$ to Rs. 5 for a visit to the patients I think it is advantageous to use the medicines available in the country where we are .born instead of going to foreign lands.

Replying to Mr. Ramachandra Ayyar, the witness said: I think the Ayarvedio system. is self-sufficient for the parpose of medical treatment in India. We need not have recourse to the allopathio or any other systems here, exoept in surgery. No doubt enargery too is mentioned in our 'Shastras, but it has been left out of practiog. If it is revived by the Government I am sure it will thrive very well. In Ashtanga Hrithaya, surgery also is mentioned. When a woman is about to die while delivering a ohild, the oxact process - to be followed in taking out the ohild alive is meationed in our shastras.

Replying to Dr. Lakshmipathi, the witness said: I was edacated in the Madras Ayurvedio College, I left the college in 1905. Students who have come out successful from the Ayprvedic College have started oolloges of their own in all parts of the Presidency. I an now the Principal of a college in Tirupati. My ideal is that the students who are trained under me should go out and start fresh colleges of their own after thoir period of training is
over. I am the President of the old boye' amociation. We have got a journal uamed 'Dhanvanthri' which is a firtnightly by which we get into toach with each other constantly. The studente and profesore contribute artioles to that jourana. There are eeveral eections in the journal. The sectione are: the factory, the atudenta' association, the desoription of cares, the drugs, etc. By meane of this jouroal we get poot-graduato eduontion and wo will be in tonch with what is going on in the outside world and in the college. Surgery in now taught in the Madras $\Delta$ yorvedic College. Seven hundred and twenty-five oame of anrgery were treated in this college. There the operstions are performed based on the modern asotem combined with the nacient. Dr. Lakshmipathi was our profewor in surgery. I have no objection to incorporate the modern methods of surgery in the old methode of surgery, I have got the reports of the college which I file now. In the college wo follow the syllabus preseribed for the All-India Vidyapita. The cost of treatment in the Madrae Aynrvedic College is half an anns per head. The coot of medicine will decrease se the number of patients jncreases. The greater the uumber of patients the less the cost. When the number of patients was 50,000 , the cost was As. 1-3 and when it was 50,000 the oont was half an anna per head. One thousand iwo handred and tifty cases of malaria were treated in this dispensary. It is easy to diagnose malaria. There is shivering, the fever coours in alternate days or once in three days. Clear reasons are given in our 8hantras why the fever recurs on particular dajs. All the 1,250 cases were treated without quinine. I am in favour of having medical regiatration. I think the board must be a meparate one not being controlled by the Surgeon-General. We want a management which is independent of the allopathic management. If any injustice is done to a medioal practitioner, there muat be provision for an appeal to the High Court.

Replying to Secretary, the witrees said: It is stated in 'Sushrate' that there are germs in the blood; some are visible to the naked eye and some invisible. In Ayurvoda, muoh importance is not attached to the bacteria. Our system is entirely based on the 'thridoass theory. Bacteria play only a secondary role in our system. So far as leprosy is concerned, the 'thridosha' and hacteria are both important. It is only when the normal oondition of the body is spoiled that the bacteria can play havoc, but when the normal oondition is nut apoiled, the bacteria cannot have their influence felt.

Wben we have a new drag, we test its properties by inspection and by taste. If wo know the chemical composition alone of a drag, it is not enough for us to use it. We must alao know its 'rasa-virya-tipaka-prabhava'. Even if the Government should standardive a drag in term of its chemical composition or active principle, it will not be enough for our purpose; for we should know its 'viryam' also. The active principle of 'chitramulam' and 'nepalam'may be one and the same, but the one will canse purging whereas the other cannot. 'Sunnam' and 'muthya basmam' may be same in chemical composition, but their 'viryame' are quite different. The western system takes the essence of drugs by soaking them in alcohol of some suoh substance. We cannot take that as really representing the easence of the drug. We do not know what 'virjam' it might have lost in the process of soaking. 'he combination of the several 'bhutas' produces the 'dravys' of a drag. We do not bnow which 'bhatam' goes away in the process of extracting the essence. Therefore I am of opinion that the method of standardising adopted in the west is not suited to our system. If we come across a now drug, we chn find out its properties by tests laid down in shastras. Thus we will know ite ' viryam.' Our ancestors who have written important books were 'thrikala gnania.' I'hey were superhuman and so they were able to know the properties of all the drugs and they bave handed down their knowledge to us through these books. On their authority we nes the drugs. Merely knowing the oliemical composition of a drag is of no use. We must also know its 'rass', ' virya and ' vipaka.'

In reply to Mr. Arumugam Pillai, the witness said: The drugs obtainable in any part of India can be used in any other part. I ouly meant in my written statement that the druge nsed by the western prectitioners are not suited to the climatic conditions of India, I know there are two different systems of 'vaidyam' in vogue. The siddha system traces its origin to Eswara and the ayurvedic sy stem to Brahma.

The committee then adjoarued at 5 p.m. to meet at 12 noon on Tuesday the 26th September 1922.

The Committee met at the committee room of the Council Chambers, Hort St. George, at 12 noon on Tuesday, the 26th September 1922 and the following members being .present:-
(1) Khan Bahadar Muhammad Usman Sahib Bahadur (Chairman).
(2) Mr. A. T. Palmer.
(3) M.R.Ry. K. G. Natesa Sastri Avargal.
(4) Dr. M. Subrahmanya Aysar.
(5) Dr. A. Lakshmipathi.
(6) M.R.Ry. T. R. Ramachandra Ayyar Avargal (present in the afternoon).

> C. T. Arumugam Pillai Avargal
(8) Dr. G. Srinivasamurti (Secretary).

The Committee began by examining the fullowing three witnesses who appeared jointly for the Eastern Medical Association of Soathern India :-
(1) Hakim Saiyid Abdulla Hasain Sahib Bahadur.
(2) Hakim Moulvi Saiyid Sha Abu Mrhammad Mazharullah Sahib Madavai Bahadur.
(3) Haji Hakim Saiyid Makhdoom Ashraf Sahib Bahadur.

Replying to the Chairman, $1 / 1 r$. Abdulla Husain Sahib deposed as follows:- .
I'am the President of the EasternjMedical Association of Southern India. I am conneoted with the Khudusia College as a professor; I am also supervising the dispensary there.

Mr. Muhammad Mazharullah Sahib by himeelf and on behalf of the other two witneeses deposed as follows:-

I am connected with the Khudusia College as professor of medicine and witness No. 3 is the Secretary of the E.M. Association and a private practitioner. I treat all diseases. I treat - oases of Kala-azar, dengue fever, relapoing fever, as I treat other diseases. We have not got much experience in the treatment of plague as it is not much prevalent in these parts. I have however to say that, from the study we have made of the subject from our medical books, we will be successful in treating oases of plague if we have any opportunity to do so. But plague not being prevalent in these parts, we do not have practical experience about that disease. As for malaria, we can confidently assert that we can radically oure even the most chronic cases by our methods of treatment. Our books oontain a clear account of the effects produced by fevers upon spleen, liver, blood and a complete account of the methods of treatment. We are therefore able to treat such cases successfully. We are also successful in treating dengue fever. Our dispensary has come into existence only very reoently and we have been long thinking about the establishment of such a dispensary ; but for want of funds we could not do so. We started only recently and have now got only an out patients' department. We have no records showing the number of cases that were treated, the number cured, kinds of diseases, etc. But I can say that at present nearly 200 patients come to us daily. We do not use even a single medicine from the English pharmacopeia. I am against using quinine and I do not advocate the use of quinine because our system provides for remedies which oan dispense with the use of quinine. Secondly, quinine produces bad after-effects, for example, diarrhoer and giddiness in the head. People are therefore afraid of using quinine. I do not like to use for a simple case of fever a drug with suoh dangerous after-effects. The drugs of our unani system are by far cheaper when compared with the cost of quinine and they are free from all the bad after-effects which quinine has on the nervous system and the stomach.

As regards surgical cases, I may say that I was trained in the Lucknow College and have taken a first-0lass certificate I have also got a certificate from Sir James Mestou. We have got a book on aurgery written in Arabic. In the first page of that book it is said that the selfsame book was at one time the teat-book in Europe. The book is called Kamilus-sana-sh azza haravi. It contains 1,200 diagrams about surgical instruments, eto. It is stated there that the student who reads it and practises according to the rules laid down therein, need not obe deficient in any way so far as surgery is concerned, and he can undertake any case with confidence. Mr. Abdul Hamid Khan who is at present the head of the institution at Tuoknow is able to perform all surgioal operations in accordance with the instructions given in the book. I. also know from my personal experience that my teacher, the late Mr. Abdul Razid Sahib, the elder brother of the abovenamed gentleman, was performing operations socording to that book. I have got quite suffioient work in attending to medical cases and could find no time to attend to surgical cases. Moreover there is lack of encouragement, so that if patronage is extended to us I am sure we can undertake that task. Stone in the bladder, gangrene carbuncle are oured in oar system by means of mediciues. We give our students only theoretioal training in aurgery. We have no opportunities for dissections. Students can become master of surgery only after learning dissection.

So far as midwifery is conoerned, the gosha system stands in our way and we are prevented from having muoh experience in that line. Muhammadan women prefer to te treated by English nurses. In the olden days Muhammadan lady doctors were trained in midwifery and
they were treating suah cases. But now the patronage $4 s$ wichheld from us and we have only got theoretical knowledge. At preeent there is one senana midwifory eeotion attanhed to the Delhi Medioal College.

I am certainly of opinion that our medioinea are oheapar than western medicines. Ever at present the cost is very 0 w ; and if we begin to prepare our drags in larger quantities, wo can have good supply drags at considerably less cost.

As regards the epecial diseases that are cured by the onani eystem I may any that they are ohronic nervous diseases, diabetes, paralysis, dropsy, syphilis, fistulm, and syphilitio affections of nose.

The media of instruotion for atudents of the Unani system of medioine is at prosent Undu, Persian and.Arabic. There are at present books available in Urdu, bat a knowledge of Persian and Arabio is necessary. Urda alone is not anfficient. A knowledge of English is not ahoolutely necessary for a unani student, but it is better to know Figlish in these daya.

As regards medical registration I am of opinion that the ayurvedio and nasai practitioners should be registered. Beoause our names are not found in the medianl register at prement we have got great disabilities. Our certifioates are not reoognized. We want that when we treat a patient or examine him and give a certificate to that effeot, such a oertifinate ahould be held valid. I want a separate medical registration board consisting exolusively of indigenous practitioners.

I think that the ayorvedic and nnani systems are based on the anme theory. We do not have dirget knowledge of the ayurvedio system, but from what we ses of ay urvedio practitioners and what we learn from experience, I can say that there is close similarity betwren the twn systems both in theory and practioe. The difforence between the two systems is ouly in language.

Replying to Mr. A. T. Palmer, the witness said: Oar unsni books are in prowe. By laok of encouragement for learning sargery, I meant financial help. In the old lays when there was State patronage, surgery flourished well. We can show by historioal facts that modern western sargery is based on our ancient surgery. I do not know any cases of Mahammadan women calling in the aid of western male doctors. On religious grounds wnmen are prohibited from doing so. Charms have no connexion whateoever with unani medicine. It is a fact that most of the time of indigenons practitioners is taken up in preparing medicines, because there are no other facilities for their preparation. Maintaining secreoy regarding medicines, depends upon individual prastitionsra. But the aystem dons not allow suoh a secrecy. There are books on the system which are available to all. If all the knowledge had been really kept secret, it would not have been handed down to us from ancient times. Provided a practitioner knows the ingredients constituting a medicine, he may nse it even though prepared ly another; otherwise he would not accept medioines prepared by another practitioner. I am in favour of the ideal of separating the functions of healing and the preparation of medicines and handing over the latter to some responsible anthorities. We employ artificial methods of bringing down temperature such as sponging with oold water, foot baths, hip baths, etc. If a man receives an injury on the head and becomes nuconscious we explain that phenomenon as a disturbance of the nervous syatem owing to external causes, e.g. a change in the condition of the brain, a rush of blood to, and a congestion in, the brain. In the treatment of such a case we recognize the principle that blood has clotted in the brain. No knowledge in the world is complete, and so also the Unani syetem is progressing forward towards perfection by the addition of knowledge gained by researoh.

Examined by Dr. Lakshmipathi, the witness said: I do not use applications of cold in all cases of high fever but only when there is a rash of blood to the brain and when certain symptoms are manifest to warrant its use. It bas to be used with discretion. The allopathio .practitioners probably use oold applications in all cases of fever, but I believe that cold will do harm in some cases of fever. In bilions fevers (pitha jwara) we would have recourse to cold applications but not in cases of phlegmatic fevers (sleshma and vatha fevers).

- In ansicer to Mr. Arumugam Pillai, the witness said: We examine the nadi in oar treatment of cases and our system allows it. There is a separate trestise on the subjeot. In our system there is treatment for such bad diseases as nakknnni, mukkanni, marphani. We also use some 'poisons.' We purify them before giving them as medicine, bat we do not give them for all diseases and at all atages. If the disease goes to the fourth or the last atage, then we administer poison drugs. These poison drugs, when purified, do not produce bsd effects. The disease for whioh such drage are given are paralysis, syphilis, leprosy, eto. Root drugs do not act quickly at that stage (advanced stage). I have experience of poison drags acting very quickly. Sometimes the ase of poison drags or root drags varies according to one'e method. of treatment.


## Hakim A. Muhammad Abdus Salnam Sahib Bahadur.

The above gentleman was the next witness examined. Replying to the Chairaan, he snid: I am a practitioner of the Unani system, but I also use Siddha medicines. I mtadied in anatomy and physiology in the Medical College. I have been practising for the last seven years. In the diagnosis of fever like Kalaazar, dengue and malaria I am guided by.
the symptoms, e.g., the enlargement of the spleen and liver, otc. The oasos that have come tome have been sucoessfully treated. Kala-Rzar is described in our books, bat I use Siddba medicines for sach oases. I treat dengue-fever too. I do not feel the necessity for using any English drags nor quinine. The principle of quinine is bitterness. That quality rou can find in neem bark, rilavemba, eto. These drugs are free from the bad effeot of quiniue while possessing its curative properties. A combination of some seeds with linga sintharam will also bave good effect in fevers.

Cases of surgery have not come before mo. Our system is defeative by virtine of the faot that there are no surgeons among us. Oar medioines are certainly oheaper than western medi-. cines. I can prepare for one rupee fever pills sufficient for hundreds of patients. I have: cured many cases of chronic gonorrboea which have bafled allopathic doctors. I have treated many oases of syphilis for whioh I can prepare cheap medioices. I have cured three cases of diabetes within the period of my practice with unani treatment. I have written aboat the properties of the drag oalled bulamar. With some combinations it has given very gool effeot in cases of diabetes. I can treat any onse of nervons debility given up as hopeless by allopathio dootors. As far as aphrodisias are ooncerned I do not think allopathy can competer with our aystem. I know advanced eases of nervous diseases and paralysis being cared by eminent unani physioians.

I know Persian and Arabic. I have read Persian books and I am also in touch with the latest publioations in Urdu. I do not think that a knowledge of English is essential for a unani physioian, but it will help him much.

I want that medioal registration must he put into force provided you are going to establish oolleges and dispensaries, as otherwise you would not be making any provision fnr tarning out effioient men for the future. On that condition only, I am for medical registration of indigenous practitioners. I am of opinion that the medioal registration board must be a separate body by itself for the indigenous asstems. We have got an analogy for this in Travancore where a Master of Arts is employed as Direotor of Ayurveda. I think that our Director of Indigenous Systems of Medicine should have nothing to do with the Surgeon-General. Beosuse; naturally, there are prejudices and mutual envy about these systeme. It goes without saying that such a head as the Surgeon-General will areate diffioulties in our way and put restrictions, So I want that our practiticners mast be placel onder our own mea, and that a medioal registration board consisting exclusively of indigenous practitioners shoald be constituted.

I think it is better to allow appeals from the registration board to the High Court because: we can have the services of clever lawyers.

Replying to Mr. A. T. Palmer, the witness said: The drags employed by unani and ayurvedio practitioners can also be used by allopathio practitioners if they know how to employ themin the natural way in which they should be used. For example, I think, I have read in some book that Dr. King of Bombay once snbjected myrobolans to chemioal examination. He analysed it into so many nitrates and phosphates. After all his quantitative and qualitative analysia be found that that particular thing was wanting in it which was responsible for givingit the quality of purging. The allopathio doctors are no doubt weloome to nse our drige provided they use them in a nataral way but not by taking what ther call active principles. We paxify the drags and use them. There is a drag whioh when soaked in cow's urine produces quite the opposite effect of what it would do before. So in that respeot ourselves and allopathic dootors are as poles as nuder. If they follow our methode of combination of medicines, only then can they use drugs of our systems. I do not and I did not say that our system oonsiston only of drugs or that there is no scieniifio framework behind it. If the allopathio practitioners want to incorporate our system and use our drugs they must learn the theory also from us. The whole system does not consint of drugs and medicines alone. I think they must reoognise the theory of the doshas, otherwise they cannot properly administer the medioines. The ellopathio dootor must know when and how to use the drug. So I think theit both the systeme and the drugs and their use must be learnt. I think that the basis fir the aynrvedio and unani systems is practically the same, though there is some differenoe which is not of much importanoeand whoh does not affect the method of treatment. We recognize four doshas whereas the aynrvedis recognize only three, so that the differenee is only of academio rather than of practioal: importance. We also, like ayurvedis, recognise the importance of dhathus.

Examined by Mr. Natesa Sxstrigal, the witness deposed thus: On grounds of langusge, I• think that there must be separate institutions for ayurveda and unani. I want that unani. institutions should be condacted in Urdu. Unani cennot be taught in Sanskrit just like ayurveda.

I am of opinion that mere certifioates of examinations would not be sufficient to guarantee effioienoy. Bat there shonld be a separate medioal registration bosid to register qualified practitioners, as otherwise we will have to depend on the whims and fancies of the principal of the college which issues diplomas. At first all the present practitioners whether qualified or anqualified men or quacks must be registered by the Board and in fature admission shonld be restricted to certificate-holders (those who pass frum oolleges to be established hereafter). When once you register all the present practisiog people you olose the register for five years. to oome, after which new men will be turned out by the Government or aided indigenons medical
ochools. I did not er y that a medical regintration board is necesany to diatingoinh between real wedical men and quacks. But it is intended for entering the uamee of proctitimere in the register which is going to be opened by which the priblio will bave confidence in them. It is intended for the convenience of the public to guard them againet unqualified men in future.

Questioned by Dr. Lakshmipathi as to how to register certain prectitionors who wrere aperialiste in particular treatments anch as snake-bites, poisoning, lunacy, eto., the witness said that all onoh people should te included in the register with certain safeguards and precautions confining them to their particular branohes of treatment on the analogy of the lioeuced dentiata in England.

Questicned ty the Secretary, the witners eaid that he agreed with thone who thought that the object of medical registration is to serve the interests of the pablic and gaide them to know the qualified practitioner from one who in not, to act as a check upon the rageries of medical practitioners and unprofeesional conduct in general and also to enoure the status and efficienoy of the profession as an organized body.

There are, in the unani syatem, general principles by which new direasee can be handied. The doshas are described and the disease is treated according to physiology and pathology and by taking account of the doshas. We are for incorporating everything mentioned in other eystems provided that we hare sufficient guarantee that the medicines will not be ever-ohanging. I am certainly in favour of incorporating everything good from other ayotems and I would like to be in touch with the medicincs used in the whole world. I admit that a knowledge of English will be very ubeful for the unani fractitioner as well as to the research otudent.

In ansucer to Mr. Arumugam Pillai, the witnees said : I would like that medical education in onani system shoold be given in separate schoole and not in Ayarvedic achools. So far as I am concerned, whether it is the aiddha system or ayarvedio aystem, I have been uning : inthurams and basmams. In my opinion, the siddha system consista mainly in the inoreased use of basmams and sinthurams. Though persons come to un for treatment, if we give a certificate to any gentleman so treated, it is not recognized by Government. We want that our certificates should be equally valid with those of registered allopathic dootors.

The Committee adjourned for lunch at 2 p.m. and reassembled at $\mathrm{V}-20$ p.m.

## M.R.Ry. A. Subbarayal Pandit.

The next witness examined by the Committee was M.R.Ry. A. Subbaraya Pandit, Principal, M ysore Government Ayurvedic College.

In ansofer to the Chairman, the witness esid: I received my training in the Mysore Sannkrit College. The Ayurvedic College was not then established in Mysore. I undertake the treatment of all medical diseases inoluding fevers of all kinds. Kala-azar doen not exist in Mysore. I do not use any English medicines. As for sargical cases, if they are common onex, wo cure them by external applications but in serions cases we send the patient to the English ductors. I am in charge of the out-patients' dispensary in Mybore. There are different varieties of medicines prepaxed by ns. In certain medicines we will have to ose even gems. But ordinary medicines are not costly. Generally our medicines ars cheaper than western medioines. But we have got also very rare and costly drugs. We specialize in the treatment of consumption, fevers, diseases of liver and spleen, and stomaoh troables, diaketes, dropsy and ordinary loprosy in its early stages. I am connected with the Ayurvedic College and there are at present 16 students. Anatomy is taught to the stadents by an English lecturer trained in the western system of medicine and also by an hospital assistant. The fundamental parts of the body are shown and the function of each part is explained to the student, and they are allowed to attend post-mortem cases if they like, in the hospitals, but they are not compelled to go. They wore attending the in-patients Department of the Government Allopathio Hospital, but they are not doing so now. We admit into the school Sanskrit and Kauarese students. Formerly we used to take Eanskrit and Engliah stadente, but now we have dispensed with English for the reason that atudents knowing both English and Sanskrit are not coming in. If they know English it would be better.

I am of opinion that medical registration should be introduced. There should be a separate medical zegistration board for the indigenous systems not controlled by western practitioners. We are not enemies to the western system but we do not want those who are prejudiced against our system to have any hand in its control. We do not care whether the Controller is the Surgeon-General or any other person, but what we do want is that he bhould not be an enemy of our syatem of medioine.

If- the Eurgeon-General knows the ayorvedic system I would have no objection to his controlling the board.

Questioned by Ifr. A. T. Palmer, the witness said: I prefer ayorvedic system in medicine but for surgery I prefer the western system. I prefer the ayurvedic system of medicine on the ground that it is not dangeroas, 'it is efficacious, generally it contains no poison and vill not
sause indirect hart to body. In sargery we are not so much trained and so I prefer the Earopean surgery. By saying 'onemies to the ayurvedic aystem' I mean that there are people who without knowing the nature of our science simply blame it and say before the Government or the public that Hindu medicines should not be used and that it is simply quackery; I called those who say so 'enemies of our system'. They say so out of prejudice and also perhaps they think they may lose their own income. I cannot say what they bave in their minds but I think so.

To Dr. Subrahmanya Ayyar's questions, the witness replied as follows: I do not consider that all cases of spleen enlargement are of one kind. But they are of different kinds. In some cases the person may die soon if it is not treated, wheress in other cases life will be prolonged even for one or two years. Generally all cases of spleen enlargement will be acoompanied by fever in a greater or less degree. I treat all cases of splean enlargement by the same method with-some little difference. I think that some allopathic medicines contain poison but I do not know personally. We are admitting students who know Sanskrit and Kanarese beoause we are not able to get students knowing English and Sanskrit.

In reply to Mr. Natesa Sastrigal, the witness stated that he knew very little of the Siddha system.

In reply to Mr. Arumugam Fallai, the witness said: We use Dravakams bat not Jayanir or Thinir. We use Kulikais (pills), but not so much of Urikina Kattu. We also use amalgam preparation of arsenic to scme extent but not very much. Basmams and Sinthurama are being largely used by us. We follow Charaka Samhita and also Rasaratna Samuchayam. All that is said to be stated by the Siddha Purushas find mention in Charaka but I oannot aay whioh is earlier. Mach is not however said about Bamams in the Charaka Sambita for which we follow Rasaratna Samunhayam. According to Charaka the diseases have been divided into four kinds and treatment is prescribed for each. It is possible to make Saranai Manigal (eolidification of mercury) as the process is mentioned in our Granthams but we have not done it We do not use Viram, Puram, Pashanam and other such; but to a very small extent 'wo use poisons. It is said that cobra poison can be given in the last stage of diseases when it brings out all the bad things from the body and sometimes saves the patient. It is also said that before such a poison is administered the relatives of the patient must he told that he is going to be administered the poison as a last rescrt and that thereby the patient may have the last chance of surviving. We use metals for internal medicines. The preparations of metallio medicines are given in Charaka and in Rasaratnakaram but mostly in the latter. There are two kinds of metallio preparations, one is Rassyanams and the other Basmams. Gold, Silver and iron are the metals mostly used. We follow Ashtanga Hrithayam. In our sohool we do not use Saranga Samhita for teaching Nadis, but our book for Nadis is Nadichakram. In Charakam, Susratam, and Vagbatam, importance is not attached to Nadi (pulse examination). Although Pandit Gopalacharla might have written so mach aboat the importance of Nadi Pariksha (pulse examination) according to the Siddha system, we go according to the Ashtanga Pariksha without attaching muoh importance to Nadi. I think that Suryakalanadi, Chandrakalanadi and Sushomnanadi belong to the sohool of yoga but not to ayurveda and I do not know whether we can apply it to polse examination. Among the serions disesses I have cured are incipient leprosy and consumption. We use for medioines Mulika (vegetable) and Basmams (mineral) preparations. As for nervous diseases, fits, etc., it is said in our books that there are: some Karmarogams which are ourable or not acoording to the Janmanthra Phalam. If his Papam ends, then the disease is oured on administering medioines; otherwise the disease is not at all cured.

Questioned by Dr. Lakshmipathi, the witness said: There are nearly thirty or forts ayouvedio hoopitals in the Mysore State. Even now there are ay urvedic practitioners in many villages, but they do not get any encouragement and they do not prosper. Generally the Mysore Government acts to the tune of the Madras Government. In Mysore allopathio doctors no doubt cure some diseases bat they bave gained good reputation in surgery. The Sargeon-Generat or the Senior Surgeon is the head of the ayurvedic hospitals also, though he does not know anything of ayurveda. All proposals connected with the ayurvedio system pass through him. If he understands our system of medioine, it will be much better; but up to now no good has come to us.

In reply to the Secretary, the witness said: Under the scheme of Medical soholarships swarded hy the Government of Mysore, only two students who passed onder me were selected for the allopathic course of stady, one for the hospital assistant grado and another for M.B. \& O.M. The Mysore Government have not given any scholarships to western practitioners to learn ayurveda so far. I am of opinion that suoh a system of scholarships (by which students of one system of medioine are given facilities to learn other system) would tend to revive ayurveds, provided that the men seleoted are suitable and intelligent. Nothing has been done so far by the Mysore frovernment in connection with the scheme for a full fledged ayurvedic college, though there was a soheme drawn up in 1919. If it is proved that the system of pulse examination is well developed by the Tamilian doctors (followere of Siddha system), I have no objeotion to its incorporation in our system. If there is merit in it I will be the first man to acoept it.

The above witness apperred for the all-India Ayorreda Mahamandal. Qweslioned by ite Chairmas he deposed ac follows:

I am connected with the Ayurvedic Medical College, Madras, an a member of the Standing Committee. I am not a teacher there.

There is no hospital attrohed to the college; I have my awn private dispencary, and am a private practitioner. I undertake trestment of euch diseacen as come within the range of my practice. I can treat relapaing fever in the light of experience gained during my practice for the last ten years. I am not using any western mediciues. No doubt aje western ayatau is also tanght in the Madras Ayurvedic College but it is jast to keep the conflence of the publio. I do not undertake surgioal cases because I am not lioensed to do oo. As rogarda the ount of indigenous medicines, I think that there are some medicines which are very oheap and others which are the dearest in the world. There are two kiads of medicinal'preparations, minerals inoluding gems, and vegetable preparations; the latter are the oheapest and we oan compete in any market. The mineral preparatione are the dearest in the world. I'o ank whether mineral preparations or vegetable preparations are more useful is like anking whether the right oye or the left eye is more useful than the other. They are equally efficsoions. The use of mineral or vegetable preparations depends on the nature of the patient's conatitution and the nature of the diease. Some mineral preparations do not agree with some constitutious. Delioate conatitutions always require vegetable preparations and mineral preparations will do harm to anch patients. Ayurveda is a saience which is progressive. In the time of Rishis they brought up the science according to their environment. In those times, only vegetable preparations were used ; after some time mineral preparations were invented and added to the aystem. No doobt we can oure any disease with vegetable preparations. But I oannot say that mineral preparations are more important than the vegetable or vice versa, nor can it be said that mineral preo parations can be altogether supplanted by vegatable preparations. (The Ohsirman here referring to the witness's analogy of the right and left eyes in repard to the two sorts of madical prepara tions, asked whether in a contingenoy of one eye being lost the witness would not be prepared to make the best use of the other eje, to which the witness replied in the effirmative).

As for diseases whioh I have cared, I will be in a position to answer if any particular disease is mentioned. All diseases have been elassified into four kinds and the curability or otherwise depends apon the olass of disease. I may say, I have oured taburoolar oases, diabetea, dysentery, piles and some typhoid cases. I have cured fistalas in ita preliminary etage by medicine alone.

As for medical registration, I am unable to say one way or the other ; it is like hot ghee in my mouth which I can neither swallow nor am I willing to spit it out. I think that there must be a separate committee to inquire into the question and public opinion ascertained thercon. I feel really many diasbilities owing to the want of medioal regiatration of indigenoue practitioners. Many people come under our treatment, but our medical certificates are not accepted by the Government. Once a patient came under my treatment, but for the aske of the medical certificate he had to go to an English doctor. I cannot aay definitely whether I am in favour of medioal registration or not ; but I am partially but not wholly in its favour.

In reply to MIr. A. T. Palmer, the witness said:-Mineral preparations are of course efficacious but not because they are costly. Our system admits of research work. I have no religious scraples to andergo training in surgery. In the beginning the medioines were divided into three sorts, vegetable, miueral and animal preparations.

In answer to Mr. Natesa Sastrigal's questions, the witness said: The distinction between the Rase Samprathaya and Oushadha Samprathaya is only in the shape or form. It is difficult to say whether the two Samprathayas were co-existent. Both are portiong of ayurveda. When a tree is growing it cannot be denied that it is the same joung plant which became the tree.

Questioned by Dr. Lakshmipathi, the witness said : I generally attend all the all-India Ayarvedic conferences. I attended the thirteenth session of the all-India Ayarvedic Conference at Rajabmundry. The Ayurveda Mahamandal has got very eminent men on its Standing Committee including many State physicians sach as Lakshmi Camaswami Acharya. There are western trained men also in it. The strength of the Mahamandal saay be over one hundred and it is representative of all India. They have got a currioulum and a nystem, of examination and the examining body is called the Ayurveda Vidya Peeta. People in general have got respect for those whn pass those examinations. I have got here reports of All-India Ayurvedic conferences; I know that the thirteenth session of the All India Ayurvedic Conference passed a resolution (No. 7) resolving that "Taking into consideration the polisy of this Conference, this Conference cousiders it tobe the duty of the Asurveda Mahacmandral and other ayarvedio institutions as well as of ayurvedic physicians to give replies to the questionnaire issued by the committees appointed by the different provincial Governments and to give evidence and work on committese if ${ }^{\text {a }}$ called upon, as the same would conduce to the better anderstanding of the principles of ayarveds.
and to its advancement." The above resolution was passed unanimonsly. I also know that the Andhra Ayurvedic Provincial Conferenoe held at Kovvar and at Tenali passed a resolution that the ayurvedio physioian should not help this oommittee bat should non-eo-operate. But yet the All-India Conferenoe passed the resolution referred to above in view of the polioy of that Conference. That Conference also consisted of some Andhras. People will have moro confidence in me if I uae ayurvedio medicines, and they would lose confidence if I used allopathio medioines. That is only as far as I am concerned.

To Mr. Arumugaim Pillai's questions, the witness answered as follows:-Nadi is not given any prominence in Charaka Samhita nor in Susruta Samhita. The Ayurvedio system has come down from Brahma Prajapati, Indra, Asvini Devathas and Baradwaja Rishi. I oannot say whether the Siddba system or the Aynrvedio system is the earlier one, though it is said that the Siddha system oame down from Iswara and Nandi. What is mentioned in the Charaka about Nadi examination is more than suffioient. Nadi only enables us to find out the mature of the disease (Pramanathvam). That is not so important. We should examine both the disease (Rogam) and the patient (Rogi). I know that Pandit Gopalaoharlu has written a separate treatise saying that it is not good to say that Nadi is not so important, that Nadi enables ns to find out what causes in the past led to the disease and what course the disease will take in fature, bat we however consider that what is mentioned in Charaka about Nadi is just safficient.

In answer to the Secretary, the witness said:-Every disease should be treated according to its stage. In the initial stage, the cause of the disease is found out and treated; but in the advanced stages the treatment depends on the symptoms. We treat according to Hethu Avastha (canses), Purvarupa Avasths (prognosis), and Rupa Avastha (symptoms). Homeapathic dootors treat acoording to the symptoms. We also like allopathy treat similars by contraries. I am in favour of taking all the merits of other systems into our fold. A yurveda is a vast ocean whioh also contains chromeopathy, hydropathy, homeopathy, etc. The principles of ayurvedic aystem inolude the principles of all the other systems. In the treatment of new diseases, I am guided by the two main principles of ayarveda for treating diseases, namely, Hethu Vioharana and Oashadha Vioharana. We treat a new disease according to its aymptoma as they present themselves to us. It is also the Indian tradition to incorporate into the system new diseases from time to time. So ayurveda has been growing. If it is desirad to draw up text books inoorporating all the knowledge of other systems, it should be done not by translation but in the original langtage in which it has been written. The principles of sargery and the method of operations are contained in our text books, but they have gone out of use beonuse of the influence of the foreigners who conquered use. Our dependence on them for everything is the cause of the disappearance of our syatems. In our ayarvedio text books all the big operations are desoribed, as also the instruments that were in use. If we establish an eyurvedio sohool, it would be possible to revive the old surgery. The principle of rhinoplastio operation was taken from the ayurvedio aystem by the allopathic system. In my opinion, surgery is an art but not a soience. It is a question of practioe, like tailoring. I agree that if we get the co-operation of a western dootor who is in sympathy. with ayurvedio aystem and who knows the Sastra, we would be in a position to renovate ancient surgery.

## Mr. G. Sigamani Pandithar.

The above witness, who appeared for the Hindu Vaidya Sangam of Tanjore, was next examined. In reply to the Chairnan, he said :-I am the representative of Siddha system of medioine. I received my training from my guru. I was practising in Madras for some time, bat I am now in Tanjore, where I am connected with a public dispensary, whioh is conduoted by me. I do not know if there is any school where the Siddha system is taught. There are some pablio dispensaries which are lnoked after by my relatives. I treat all diseases. I do not use English medioines, nor quinine. I treat surgical eases by external applioations. There are medioines which when applied to boils, ripen the boil and open it. I did not treat any aase of fractare in my dispensary but in our system there are methods of its treatment. We do not treat eye diseases. Siddha medicines are by far oheaper than aliopathio medioines; the cost generally comes to less than one anna per day:. I oannot say whether Siddha medicinos are cheaper than ayurvedic medioines. The peouliarity of our system is there is possibility of cure in a very short time and we claim to oure very rare and bad diseases. The treatises on Siddha system exist only in the Tamil language. I think that registration of medioal practitioners is necessary.

Examined by Dr. Lakshmıpathi, the witness said :-I know the treatises oalled Jivarakshamritham and Patharthaguna Chintamani. Nadi Vignyanam is a treatise of the Siddha aystem. I know that Mr. Maduraimutta Mudaliyar teaches students those three subjects in the Madras Ayurvedio College. I know alao that the above books are being taught in the Madras Ayarvedic College.

Examined by Mr. Arumugam Pillai, the witness said:-Padardhaganaohintamani and Jivarakshamratam are books connooted with the Siddha system. I have not gone through any great works in Sanskrit, nor oan Lsay whether any Sanskrit works exist regarding the Siddha system. I think Bhasmams and Sindhorams oure more quiokly than Rasa, Gandha Pashanadis. Medioines prepared ont of Mulikas do not last long and they are not effective after some time, but Bhasmams even hundred years old sometimes cure effectively. I have oured cases of
elephantiasis hy external applications. If by tonching the part a depression is formed, you oun care moch ofses withcut operation. I have also cured seven or cight oases of pites without operttion. There are eight kinds of piles. I should like that there ahould he e peparate college for the teaching of the siddha syswa, apart from an ararredic oullnge. There are come books on curgery in the Siddha system and I believe with a stody of those broks it is posible to practice surgery. Though there are medicines in the Siddha systems whioh act liko the surgeju upon boils, etc., I think a knowledge of surgery will be better. I cannot any whether it is posible to collect all the books on surgery. Perbaps it might be poesihle to find out what books are available now. There is no oljection to inclure western surgery in our oystecn. We have got Rasadi Manigal, Rasachobaraaaigal, eto. I have known the art of Nadi examination. Apart from the Nadi examination, it is necessary to learn the eight kinis of eramination and find out the Doshas. In dingnosing the diseaso, however, according to the Eiddhn syatem, the paleo examination is considered to be more important in order to find ont whether the disoase is curable or whether the treatment will be a failare. In delirious osudition, eto., pulsation plays a very important part and by pulse we aan find ont the condition of the patient. By looking to the Nadi we can also find ont Meha rogams and diseases of the bono, and all the diseases of the various organs.

## Mr. K. C. Subrahmanya Pillai.

The above witness who hat been exnmined the previous day had his examination oon'inued to day:-Plague ia called Mabammari. I have treated a large nu nber of oassa of plague. Pollachi has often suffered from plague. From the year 1910, 83 oises of plagur at Yollachi came ander my treatuent. Thousands of persons died in that plaoe of plague. Of oourse inoculation has done immense good there. I myself got inoculated. The Colleotor invited me and some others to get inoculated and set an example to others; to oreate confidence, we got inoculated even three or four times. The people of the villages have now got confidence in inoculation as preventive of plague. Of those incoulated, only about ten or fifteen in a thouse ad have been attaoked by plague. About 80 or 85 per cont of cases of plague treated by me were suocessful. I bave prepared a Lasbayam called Mahammari panakam for plague just like Pandit Gopalacharlu's specific, Haimadi panakam. My medicine is prepared out of margora bark of $x$ tree 60 years old, distilled water, and trikatus (sukkn, tippili and mulahai). Tho decoction of the bark and the other ingredienta is added on to a syrup made from sugar. This medicine is for internal use. For external use I make a plaster for the bubo. If lard were available, I could prepare a plaster out of it with veerum. The dose is one ounce of the panakam every second hour. The syrop will sometimes ferment in the bottles and kick off the corks ; I do not do anything to stop fermentation because I had no necessity to do so, as the medicine was prepared in a hurry and used at once.

I treated cases of stone in the bladder, stricture due to arethral passage being blooked and stricture due to venereal diseases, which last disease is common in the Anamalais. Hundred cases out of the three handred I attempted were saccessful. My prescription for stone in the bladder is Asmiri tailam. I am prepared to give out the recipen of all my preparationg.

The Committee then adjourned for the day, to meet again at 12 noon the next day.

## The Committee resumed its sitting at the Committee room of the Council Chamber, Fort St. George, at 12 noon on Wednesday, the 27th September 1922 and the following members were present:-

(1) Khan Bahadur Muhammad Usman Sahib Bahadar (Chairman).
(2) Dr. A. Lakshmipathi.
(3) Dr. M. Subrahmanya Ayjar.
(4) M.R.Ry. K. G. Natesa Sastri Avargal.
" C. T. Arumugam Pillai Avargal.
(6) Mr. A. T. Palmar.
(7) M.R.Ry. T. R. Ramaohandra Ayyar Avargal (came in the afternonn).
(8) Dr. G. Srinivasamurti (Secretary).

The Committee proceeded to examine the following two witnesses who were recommended by the Tamil Sub-Committee and I.V. Sangam:-
(1) M.R.Ry. Swami Virudai Sivagnanayogigal Avargal.
(2) " Shanmugananduswamigal Avargal.

In answer to the questions by the Chairman, Swami Virudai Sivagnanayogigal said:I practise the system of Siddha vaidya. The revealer of this system is God Sivanar. His dissiple is Nandikeswarar whose disciple again was Tirumular. There were 18 such Sidhail each of whom had in his turn a large number of disciples. The treatment according to this system could be divided into (1) Vaidyam (medicine), (2) Vatham (alohemy), (3) Jyotisham (astrology), (4) Mantram, (o) Yogam, and (6) Kalpam (i.e., elixir of life). Sivanar - was the author of the first book on the subject containing one lakh of sutras and the commentaries thereto extend to over seven lakhs of satras. Following on these lines the books edited by the disciples are legion in number. Of these we are now dealing with only Vaidyasaatra.

The system of vaidyam is divided into different olasses. First they disoovered the herbs and the medical preparations and divided them into ten sections; viz., (1) herbal preparations, (2) salt preparations, (3) acid preparations, (4) Uparasams which are 112 in number, (5) Udarporul medioines, suoh as preparations from punugu, kasturi, gorojana, ete, which are found in some parts of avimal tissues, (6) poison preparations ( 64 kinds), (7) metallic preparations, (8) sathuvahai or extracts which are of 120 kinds, (9) Rasams-merourial preparations and pills with special potency, and (10) Yoga abhyasam-the practice of yogr, in which in addition to the effecte of yoga towarcis salvation, thre are to be found immense medical results and I rely for my information on Thirumantram Ennayiram.

In Ayurveda there is muoh of treatment by means of herbs and there is no connexion between the Aýurveda aud the Siddha systems of medioine. In the books relating to the Siddha systems of medicine many more subjects are discussed than are to be found in the ayarveda books and therefore it should be conoluded that the Siddha system is moro ancient, and it appears to have been in vogue even before the Dravidiane settled in India.

I practise the Siddha system of medioine, and I do not use English mediaines. With regard to surgical oases, as for instance in the case of a boil, we are generally able to treat it with external applications so that pus may not be formed within and the awelling gradually disappears. Should, however, the boil give tronble, we have medicine in our syatem by the use of which we can bring about results equally, if not more, effective than when they are treated sargically, i.e., there are medicines in the Siddha system by the application of which the pas or any other foreign matter could be easily removed with less pain and trouble to the patient; and subsequently by the use of other medioines the opening could be quickly healed, H'he whole thing is dealt with in detail in Raravaidya Chintamani. In cases like hernia, excellent treatment could be administered by direoting the patient to bed and by olosing the opening through the application of necessary medioines. By suoh applioations the skin would be allowed to grow at that purtion sufficiently to close the hole.

With regard to eye disenses, there again we have necessary medicines and withort the necessity for the ase of instruments, we could oure the worst cases successfally.

I have not come across cases of abdominal operations, but our system of medicine provides for the treatment of auch cases by inhalation. The necessary medicines are collectel and prepared and the patient required to inhale the smoke which will have the desired effeet of ouring the trouble in the abdomen. Medioines prepared on the lines of the Siddha aystem are by far oheaper than English medicines. For instanoe, the churnams and bhamams, whioh come under poison preparations, do not cost us muoh; bat they could be used in the treatment of different diseases by merely ohanging the snupansms. These medioines oure more speedily than mulika preparations. We have successfully treated such cases as were found inourable by means of English medioines, e.g., dyspepsia, rhenmatism, gonorrhoea, syphilitio ulcors, etc.Ailments whioh are oonsidered inourable under the English syatems, suoh as leprosy, white deprosy, paralysis, etc., can be confidently undertaken to be treated hy our medioinee.

On the question of registration of indigenous modionl praotitioners, the witnean whe of opinion that as there were many illiterate parsons among the Sidiba raidrana, the oetabliohment of a oollege was of more immediate importance and that the registration of practitionera might as well be taken upafterwards. Bat if it were to be decided to bave registration first, he (the witness) wonld confine it to practitioners of ten jeare' standing. There are no echools at present in the Madras Preeidency to teach the Siddhe is atem of medicino bat there are many cochools wherein the Agarredio asstem is taaght.

In reply to Mr.C.T. Arumugam Pillai, the witnesa oontinued: There are one or two Ayarvedic schools in Madras, but wo oannot establish suoh schools for want of funds. There is no harm in adopting other aystems of medicine as far an they would be ueoful. I bive no objection to try the prineiples of English sorgery, bat I do not want the Engliah medioines. As between the two systems, Ayurvedio and Siddhaaic. I do not think there will be any approciable differenco in cost. In the matter of registration of practitionera, sach one might be registered in the partioular branch he has apeoialised himeolf in, at the asme time being allowed to practise as a general medioal practitioner for all diseases. Thore is dothing wrong in English doctors being in the board as membera and that would only tend to the appresiation of our system by suoh English dootors. Appeals from the board might preferably be to the High Court than to the Government as there are facilities for better disounaion in the High Court. If a school is established for the purpose, owing to lack of funds it may not be ponible to collect all the books available on the subject, but as a beginning stadeota might be learning from experienced English doctors. When the board comes to be constituter, they might bring all these books together and then the different oourses of instraction might be apecifled and n ourriculum adopted.

Examined by Mr. A. T. Palmer the witness deposed : The Siddha system of modioine haea divine origin and originates from Sivavar. In the treatment of oertain oases pertaining tothe stomach by the process of inhalation, the smoke that the patient will take in perrados all through the body and even where the smoke cannot penetrate, it will sufficiently be absorbed to give the necessary remedy. I am of opinion that there ought to be three diatinot boardo, one for the Ayorvedic system, a second for the Siddha aystem and a third for the Unani ayutem, as they happen to be in different languages. As a sort of encooaragement, there ahould be collige en established and the necessary text books prescribed and the persons who have undergone a sucoessful training in thees colleges should be oncouraged with suitable appointmenta in the medical departments ander the looal and district boards.

Questioned by Mr. K. G. Natesa Sastri, the witness said : I am the Seoretary of the Tamil Vaidya Sangham which has its head offioe at Koilpatti. Its president is Mr. I. Appaswami Naradu, m.L.c., and it is established to encourage the Siddha eystem. I am aloo oonneoted with the Dravida Ajurveda Sangham, and I was its vice-president during the time of Pandit Gopalacharlu. I think that I still continue to be vice-president there. 'The first conference of the Sabha was held in Tinnevelly in the year 1921. We have awarded titles to persons whohave attained proficiency in Siddha system acoording to their merits, -titles such as Vaid yapathi, Vaidyabhupathi, Vaidya Asariyar. In Washermanpet we have established a free dispensary. Patients of whatever caste are treated there ; and on the average there are about 50 patients who are treated daily without charge. I think for the Tamil Nadu, medioines propared under the Siddha system are more suitsble. It is not atated in Charaka and Susruta that the ayotem, Siddha and Ayurveda existed together and I can confidently say that the Siddha syatem wacthe more ancient. In Charaka and Susruta only the names of Rasame appear.

To Dr. A. Lakshmipaths the witness deposed: This arstem of medicine has greatly to do with Siddhas like Nandi, Tirumular, Agastiyar, Therayar, Ramadevar, Dhanwantri and so on, who are 18 in number. None of them was born in the northern countries; but Ramadevar has made an extensive tour and bas even gone to Menos. He has. written many books and while at Mecca be wrote a book in the Arabio langoage. In the same manner he might have also travelled in the Andhra Desa. (At this stage the witness was handed a book called Agasthiyar Karisal. After persuing the first two pages, the witness continued). It is mentioned here that the book was written after reading the following books: Vaidyartham, Vaidyaratcakaram, Rasachintamani, Rasachudamani, Rasapraharanam, eto. I have heard of Patanjali and he in a descendant of Nandi, oue of our anicut Siddhas. He has written aboat Yogasastra. It might be that it deals with certain aspects Vedanta, but there is no reason to say that it is not part and parcelof Vaidyasatra. I think the author of this book cannot be the same person whom we recognise as the anthor of Grammar. At the head of a medical board I would prefer tobave one that has specialised himself in the system.

To the Secretary, the witness explaived: In Charaka and Saerata, vegetable drage m.cotily, are mentioned, whereas in the Siddha system there are, in addition, mineral preparations From this, I conclude that the Siddha system must be earlier. Asked whether jost the opposito conclusion is not inferable from the fact stated, the witness answered "no"; being forther asked whether, if the Siddha Syetem was richer and faller than Ayurveda and contained all that Ayurveda had, and something more, it should not be referred to a farthor stage and a later period in the evolution of medicine, witness replied he did not think po. Even before the

Aryans came here, the Siddha asstem was prevalent and the Ayarvedists are gradually developing their syatom by inoorporating the methods of the Siddha system; and it is possible that in course of time they might become better experts.

In reply to $\cdot \mathbf{M r}$. Natesa Sastri the witness said: I cannot answer offhand whether the book Sampoorna Kaviyam was written by Agasthiyar or not.

The next witness examined was Mr. K. S. Subramania Sastri.
Examined by the Chirman the witness said: $[$ ama teacher in the Madras Ayarvedic college and I am also allowed private practice. I have not nsed English mediciaes in my treatments. In cases of influenza the theory of Vatham, Pitham and Sleshmam will have to be applied and it is easily possible for us to treat these oases acoording to Thrilosham. We have many books dealing with surgical oases. I have not done any surgical treatment. I think it will be useful to learn English surgery in acoordance with Charaka Sastram. Ordinarily for the indigenons preparations a patient might have to pay from sis pies to one anna for a day's treatment. I do not kuow about the cost of English medicines.

With regard to medical registration there should be a board onssisting of the destors of the different systems bat ontirely independent of the Government. There may be a different board, if necessary, for the Unani system of medicines. I have no objection to a joint board. I agree with the witness that deposed yesterday that a school might be established by the Government quite independent of the present medioal departnent ander the Surgeon-General. If the schnol or college should be under the Surgeon-General, I am of opinion that it will not be facilitating the progress of the Ayurvedic system.

Examined by Mr. A. T. Palmer, the witness said: There are many ancient standard books. on the Ayprvedic system of medicines. Many subjects are dealt with thore and they are all written in Sanskrit. Some portions of it are translated but I do not know if thore are more than one translation for any portion. Till now to my knowledge there has not been any committee to teat the veracity of the translations already made. Duriag the time of Asoka and Chandragupta, the dootrine of Jeevakarunya was elaborately preached and that was the mainreason why the art of surgery according to our sastras had to fade away as there were not many people coming forward to adopt the system, hecanse of the philosophy taaght under thatdootrine. With regard to the powers of the board to be constituted, I have no objection to have a board provided it is not controlled by the Government. But I have no objection for the committee itsell being appointed by the Government.

In reply to Dr. A. Lakshmipathi, the witness continued: My college is affiliated with the All-India Ayurveda Vidya Peetam and we follow its curricalum. We have text books in Sanskrit, Telugu and Tlamil. Some of these text books are not merely translations, but they are original ones like Basavarajiyam and Chintamani. Even the books, the originals of whioh are in vernaculars are based upon Sanskrit text and in such vernacular books there are some additions derived from experience in the Telugu conntry. We teach in our college elementary science, ohemistry, physies, anatomy, biology and physiology and the stadents know the use of the microscope. We teaoh surgery according to the ayurveda sampradaya and also according to the Western method. In the College Journal there are 710 surgical operations recorded. For the cleaning of wounds before and after operation, we use kashayams, eto., prescribed in Susruta. I believe in the use of Tripala Choornam in healing. wounde. Medicines prescribed in the British pharmaoopmia are also taught. Whe students are also taught actualiy the system of intravenons injection. I do not think it necessary that the Western system of using it should be adopted. In Suohikabharanam there is mentioned a method by whioh medioine o in be introduced into the oirculation. This method is resorted to when the patient is uneonscions and there are precautions for the use of these medicines. Pandit Gopalacharlu took a greatdeal of trouble in collecting the manusoript books on the subject. Even now we are colleoting all books available. The practical work for the students in our oollege are trught in the Andhra Ayurvedia Faotory which is a limited company with three lakhs of rupees for its capital. For the students and teachers there is no seorecy in the preparations of medioines. Students who cannot afford to pay for themselves are given some work and aro paid a remuneration for such laboar as they are doing in the factory. Most of the stadents get. soholarships from Maharajas and they are taken op by various manicipalities as is the caso in Guntar, Rajahmundry and such other places. I have received good reports of the work done by these students. The dispensaries are very popular. Both the poor and the rich come here for treatment. I have got students for post-graduate stadies. The oollege stadents are conducting a journal and they record their experience in that journal.

Questioned by Dr. M. Subramania Ayyar, the witness said: Thoagh we do not adopt the English aystem of surgery, yet we teaci it in our elasses for the parpose of comparing and eliciting the merits of each system. Some of the atudents who come for post-gradaste stadies in our college pay their own expenses and some others get scholarehips.

In answer to the Secretary, the witness oontinned : There are ten professors in our staff. Each professor takes one or two subjects. There is a separate teaoher for clinical instraction. There is no in-patient hospital for learning olinioal work at present, bat during the time of the

Pandit there were come in-patients. For want of funde it was impomible to maintain them. There are no permanent endowmente for the benefit of the coliege and if we have fuadas wo can provide for better clinical training and also keep a laboratory.
$\Delta t$ this atage the Committee rose for lanah and ro-amembled at 2-30 p.m.

## The next witness examined was Mr. K. Besha Satri of Sringeri.

Replying to the Chairman the witness deposed: I am connected with the Ajurveda Vaidyasala in Mysore connooted with the Sringeri Mutt. We have no plague in thome placos, but if there is an epidemio we can succesfully bandle the oases. Casee which acoordiog to the English asstem ot medicine should require sargioal treatinent, oan be ourad hy our medieinal preparations withoat any necessity for uaing the English medicioes. Tho cost also is very opreap, say about six piee per head. I have got some stadents and I teach acoording to tof system. I teach in Sanskrit and aiso in Kannada. I do not know very mach about the Mediel Registration Aot, but only those who have adequate kuowledge should oonstituto such a board.

In ansiver to Dr. A. Lakshmipathi the witness asid: I was the President of the Andhra Ayurvedic Conference held last rear at Tenali. At that Conference a resolution was paseed that the Ayarvedic phyeicians of the Andhra-desa should not oo-operate with the Committee as they believed that the Committee will not be conducive to the intereste of the Ajarvidio system ; and they also thought that it was after all a bait to pase off some more time; also they had no confidence in the Government. However, in spite of that resolution, I bave oo-operated with this Committee for the reason that I thought I should answer the challenge that was put forward whether the Agursedic syatem was a scientifio one or not.

Tu the Secretary, the witness replied: Trying to mix ap Ayurvedio, Unani and allopathio systems is dangerons as their methods are different. I have no objeotion if things like surgery are taken up on the basis of indigenons systems. The booke on A parvedio aystem are exhaustive in themselves and the new diseases are but modifioations of the old ones. I have no objections to take any nseful thinga from any other system for diseases which are not providod for in our asstems.

Replying to Mr. A. T. Palmer, the witness asid: If stadenta in the Government medioal, colleges should be specially trained in Ayurvedic medicines there is always the apprebension that the Ayurvedio systems would be wrongly interpreted. It will take five y pars for primary training in Sanskrit and another ton years to stady the soienoe itself, inolading the praotionl oourse. I have not got any secret medioiues, but in the combining of partioular preparations eaoh may une his ingenvity. Certain treatments are kept seoret for the simple reason that if the presorip. tion were to be given out, people might lose faith in the value of the remeds as it very often happens that the remedies by themselves are very simple. Hence it is that certain treatments are ahrouded in mystery.

Raplying to Mr. K. G. Natena Sastri, the witness aid: The morbid conditions of Doshas oocur in case of fever as well as in cases of oonsumption bat these two should bs ojnsidered as separate diseases whioh should be diagonised according to the particular organ that is affeoted by the dosha. Such classifioations may be made, bat it is nnneceasary that they should be considered as a new disease. I am of opinion that Bhavamisra erred in considering ayphilis as a nem disease.

The next witness examined was Mr. M. Madhava Menon. In reply to the Chairman, the witness said: I am oonnected with the Madras Ayurvedio college for the last twelve eears. I can cure all diseases by adopting the Ayarvedic system and 1 do not have reoourse to Eng lish medicines. Our aystem permits of research work. I do not praotise surgery, bat it is tanght in cur college and $\bar{I}$ consider that for practical training it is neeessary to ineorporate modern eargery in our books. With regard to the cost of the Agnervedic medioines I consider that these medicines are by far cheaper. I can trest the following oases more auccessfally by adopting the Ayurvedio system than by English medicines, viz., paraly gia, mental diseases (Anasmaram), ekin diseases, eto. If the Goverament would ensourage the syatem, there are teachers sufficient to undertake the work now. The mediam of instraction in the $\Delta$ jarvedis syatem should be Sanskrit. It is not possible to have anything like an appropriate translation for these Sanskrit text books if they are to be properly and usefully tangat in the medion colleges. I am for having a separate board for the registration of Ayarvedic medioal practitioners-a board oonsisting exolusively of indigenous medical practitioners without the control of the Euglish Medical Counoil, beoanse I am of opinion that the Surgeon-General is against our system ard also becanse I feel that it may not ba cenducive to the progress of the indigenoua eystem.

Beplying to $1 /$ r. A. T. Palmer, the wituess asid: The Ayurvadic system allows of expanion and research work. I do not consider that making use of modern facilities for investigating into diseases and remedies will help in any measure to improve our system. It is not good to make the teaching of Ayurvedic asstem compulsory for students in the Government modical, -oolleges as there are not capable men to give instructions pruperly: It is essential firstly that ${ }^{-}$ .the students mast have a good knowledge of Sanskrit. 'Ihough there are books in English I
do not consider that they are proper translations and it is impossible to have a oorreot translations. If that were possible, then it might be tried. I a n a medioal praotitioner myself. I am not a specialist for any new diseases.

Questioned by Mr. K. G. Natesa Sastri, the witness said: The Ayurvedio system has a aystem of its own and it is a soientifio aystem. It is based on Thridosha. We diagnose diseases aocording to symptoms and according to the differont organs. The medioiaes also are based on tridosha. There is also the systom of Panchakarma, otherwise oalled Sodhanakriya, by. which -diseases could be properly treated. Hethaviparitha and Vyadhiviparitha ropresent the treatment by contraries of the causes of diseases.

To Dr. A. Lalishmipathi, the witness said: I underwent a post-gradusto study in the Ayurvedic college and I passed the highest examination in it. I am the resident medical officer of the Madras Ayurvedic college. I can statistically prove that Ayrurvedic medicines are oheaper than English medioines. I teach the final year course in the college and I have found it diffcult in practice to teach the students who did not know Sanskrit. I would recommend Sanskrit to be the medium of instraction in an ideal Ayurvedic college, and, as I have already said, if a proper tranalation were possible, vernacular rendering of the Sanskrit books on Ayurveda might be usefully attempted. I see no harm in Ayurveda system being made a compulsory subjeot for being taught in the medical colleges and balieve that eaoh system will bentfit by the other. I also like the idea of sending final year students and graduates for oomparative and post-graduate -studies to the medical colleges where the Western system is taught.

In reply to MI. C. T. Arumugam Pillai the witness said: In our colleges we use Bhasmas prepared in accordance with the instructions given in Rasarnavam and Rasapradipika. Ordinarily by the use of bhasmas and sindurams we are able to cure skin diseases, such as es phills, leprosy (mandalakushtam) in its middle strge. I have not tried it in its final stages, I have not tried the herbs in these cases, for I think it will take some more time.

Replying to the Secretary the witness said: I prefer that Ayurveda should have a college - of its own rathor than that it should be taught in western Medical colleges; for, the Jatter course will not promote Ayurveda, any more than the teaohing of Sanskrit and vernacolar in Arts Colleges has promoted Sanskrit or Vernacular soholarship. Moreover, the professors of Western Medioine are paid so highly that a poorly paid vaydian on the staff of Western Medical College will not oommand respect. I would therefore prefer to have a separate oollege for the teaohing of the Ayurvedio system. I should think that the only way to enoourage Ayurvedio system is by establishing o.a its own basis an Ayurvedio college, and if necessary Western training might be given there as an optional course. I have'becn long convected with the All-India Ajurvedic Vidja Pitam and 1 know the general curriculum and the text books. I do not consider that there are suitable text books in all the subjects.' There should be a sort of committee to prepare and prescribe suitable text books. Some books might perhaps be re-written and olassified under the different branches of medicine, auch as medicine, surgery, etc. We should therefore first have a board for bringing the text books up-to-date, but as there are sufficient number of teachere already, the teaching might be immediately taken up without waiting for the board to select the necessary text booke.

The last witness examined for the day was Pandit T. R. Eithirajulu Nayudu. In reply to the Chairman, the witnesa asid:

I practise the Siddha system of medicine. I am able to cure, by means of oils, etc., diseases which, under the English system, need operation. Appendioitis, Carbunoles, which have been treated in the medical houpitals and in some cases even operated upon, but subsequently given up as hopeless, have been sucoessfully treated by me and the patients are keeping excellent health now. It is my ardent desire to publish to the world that in this system there are medicines which oan, with less risk and trouble to the patient, be successfully administered for treating even such serious eases as have been pronounced hopeless by eminent English doctors. Presentation of medals and certificates were made to me at public meetings. Mr. T. Arumainatha Pillai presided over one such meeting and presented me with a medal for successfully treating a oase of appendicitis. Sir P. Tyagaraya Chettiyar presided on another occasion. I bave oured two oases of diabetio carbunole in recognition of which at a public meeting assembled and presided over by Mr. C. P. Bamaswami Ayyar now Advocate-General, I was awarded a gold medal. I have also undertaken and sucotssifully treated oases of leprosy. One such instance was in Mr. V. K. Ramanuja Achariyar's house who granted me a certificate unasked. I have so far had 17 medals, a gold thoda and a diamond ring not to speak of the innumerable oertificates granted to me, almost all of them given for my merit in having treated cases the oure of which many English doctors had attempted in vain; my testimonials would amply substantiate my statement.

I was trained in both the English and the Ayurvedic ujstems of treatment. I received my training in the Ayurvedic system under my master one Tiruvaiyar Srinivasa Fandithar of the Tanjore samasthanam. I have also received some training in the Western aystems; but, I have nut passed any examination. I do not use any English medicines, nor do I nse quinine for malaria. Even surgical cases; as I have already mentioned, do not require the help of the

Western medicines. Even cases of ayphilitio ulcery, considered incarable by Western dootors, have been treated under our system with susoess. As to the onst of our medioines, thoy aro many times cheaper than the English medicines. I am quite sure abont it.

Medioal registration must of course be introduoed and doctore who are capable of handling cases independently must be granted diplomas as is done in the ovee of the English aydtem. They should also be empowered to give certitiostes just as English dootory are.

In aresoer to Mr. A. T. Palmer, the witness said: I posscse oare for appendioitis and leproser whioh I got from $m y$ master. They are not written in any books. My master wne himmeit tanght by a Yogi. There are several such cures which might be collocted it only Government encourages us, and open dispensaries under the Ayarvedic aystem in all the districta. I bare treated one or two oases of leprogy and I oan give evidence of it. But thay were not of a chronic nature. I have treated one such oase in Mr. V. K. Ramanuja Aolariyar's hnone, who is now the President of the District Board, Tanjore. I am not rioh enough to piot ap for treatment all oases of leprosy; but if oases are offered to me, I oan then nhom my nbility. Three stadents aro already being trained by me and they are leurning from me what I have myself learnt at the feet of my master. I should like that stadents trained in Engliik medionl coileges should also receive instructions in the Ayurvedic esstem, no that, if they aro not able to treat cases with the help of the allopathio medicines, they can oonfidantly have reoonrae to the Ayurvedio medicines. That is my experience. Each disease must be explainod by a body of Eastern doctors. It is necessary to know the myeteries of Tridusha. I have not mastered the Ayurvedio system bat I can handlo cases confidently and successfully. What really mattere io not a detailed knowledge of what is said in books, but a praction training in the treatment of cases. I do not know what the Sankkrit term Tridosha means. I have a good knowledge of nadees which is essential for an Asurvedic modioal praotitioner; and I hwve gnined modala and cortificates for efficient treatment which is not possihle without a proper diagnosis of the case by means of nadces. I am for teaching Ayorvedio aystem also in E'nglish medical oolleges.

To Mr. T. B. Ramachandra Ayyar, the witness said : I know the treatmente praotically and I learned them from my teacher. A practioal knowledge of medioine is more essential for successful treatment : but it would be better to know the Sastras as well.

Replying to Mr.C. T. Arumugham Pillai, the witness snid: I know nadeos and there is no use of treating diseases without knowing nadecs. A knowledge of it ic essential but such a knowledge cannot be obtained by merely atudying the books. They mast be learnt at the feet of a master. And that is why I should like it to cone from Gari to Bishya (Gura Bishya Parampara).

In answer to Mr. M. Subramania Ayyar, the witness said th at a full knowledgo of the nadees could be gained by a student of averago ability iu one month.

The Conmittee then adjouraed for the day at 4 p.m. to mest again tc-inorrow at 12 noon. .

The Committee met at the Committee room of the Council Chamber, Fort St. George at 12 noon on Thursday the 28 th September 1922 and the following members were present:-

(1) Kban Bahadar Mefanmad Ubian Sarib Bahadar (Chairman).<br>(2) Dr. A. Lakshmipathe.<br>(3) "M. Subrahmavya Aytar.<br>(4) M.R.Ry. K. G. Natbsa Sastriar Avargal.<br>C. T. Arumdgam Pillai Avargal.<br>(6) My. A. T. Palmbr.<br>(7) Dr. G. Semetvasamurti (Secretary).

Messrs. O. Maduraimuthu Mudaliyar, C. T. Muthayya Pillat, O. S. Murugesa Mudaliyar, V. Shanmugasundarx Mudoliyar and Pañit S. S. Anandcm appeared together on behalf of the South Indian Ayurveda Sangam.

In reply to the ohairman, Mir. Murugesa Mndaliyar the witnesses deposed as follows: We are Siddha doctors. We reneived truining at the hands of certain Tamil pandits. We are able to treat all disenses. Our system allows ns to make researches into new diseases, proceeding on the three dosha basis. We have got certain funotions for Vada, i.e., the nervous system, certain others for Pitha which represents the blood oxydisation and the tissue system, and certain others for the Sleshma representing the secretive system. We examine whether these three Dhathus are in equilibriam or whether they are distarbed. If the latter, we bring them into equilibrium and the disease is then overoome. We are absolntely certain of saccessfully treating any disease. We.do not nse any English medicines. We treat even surgioal eases with external applications. But we are ready to assimilate western knowledge in the matter of surgery. For we have no hostility to knowledge as such. Similarly we have no objection to take in knowledge from the Aynrveda books. Our medioines as those prepared under the Ayorveda system are very muoh cheaper than those in any other system of medioine. Both the Siddha and the Ayurvedio systems are almost the same inasmuoh as they proceed acoording to the nature of the constitation, according to the food taken and acoording to the habits. But there are some slight differences. Though the medicines are also almost the same yet there is some slight difference in the preparation. The majority of the Ayurvedio medioines are used by the Siddhas also. But the preparation of arsenios and some other metallic preparations are not dealt with in the Sanskrit texts of Ayurveda. The special diseases for whioh our system is famous are ohyluria, diabetes, consumption, diseases of the nervous system, paralysis, diseases of the abdominal system, dyspepsia of ohronic nature, syphilio diseases. Ieprosy and so on. There are many Siddha doctors in the Tamil distriots. A knowledge of Tamil is quite sufficient for a study of the Siddha system and a knowledge in Sanskrit and English would only serve as àdjuncte.

We desire the syaters of medical registration. But at the present atage we are not for it. When Government brings into existence institations and provide for certifiostes and diploma and degrees for successful candidates and give the same privileges to the allopathio and the Siddha doctors, we are quite prepared to go in for medical registration. As for the medioal board we want it to be separste consising of members exclusively from the indigenous systems. The board may consist of an equal number or other proportion of men for the Ayarveda, Siddha and the Unani. We prefer appeals from the Board to the High Court and not to Government. When the Government brings into existence institations on the indigenous systems of medicine these institations in our opinion should be placed under an officer quite independent of the Sargeon-General, beoause the latter belongs to the allopathio system and will have a natural prejudice against our systems. On the other hand, if one independent of the SurgeonGeneral were to be appointed there would be immense possibility for the development of the indigenous systems and for researches as well. The Committee should also be an elected one of non-officials. The Government if necessary may nominate one-third or one-fourth of the members but we strongly wish that the majority should 'be non-offioials eleoted by Ayorvedio, Siddha or Unani doctors. We cannot say whether the Siddha aytsem is older than Ayurveda for that is more or less a question of academio interest.

In reply to Mfr. A. T. Palmer Mr. Maduraimuthu said: The dassifioation of diseases in our system and the modern system is the same. We hare a symptomology also in our syatem, quite clear and definito. For instance, the texte say that pneumonia is a lang disease and is a kind of janni which has been elassified into 13 kinds. It is not considered as a eeparate disease but only as a subdivision of Sannipatha Jwara. Our books locate the disease in the lungs then they say that oough is a symptom of pneamonia. In consumption though there is fever we treat only for the disease. (The witness here read from the Jeevarakshamrithum the passage relating to Rakthashteelisannipatham which he said was paeumonia.).

We oan oure consumption in the first two etagea. I have myelf eured two cesee. Whatever our aages have sail incurable, the western aystom hat aloo failed to oure. Thero are instances whore we ancceeded and the weatern oystem failed.

Mr. Murageam Madaliyar referred to mo instanoe of consumption where the fatientwas pronounced to die in the couree of a week by an expert allopathio doctor but who was eured hy him.

Continuing Mr. Maduraimathn eaid: The committee should to elected ty the physicians of the indigenous aystema and not nominated by the Government. Government officiala ahonld not find a place in the committee. But one or two nominated membere may be put in. The allopathic doctors have got a prejudice against our systems, why we onnnot say. We consider it a prejudice because of the bar that exists in the case of the people who have not been registered, such as Duclor Lakshmipathi.

Replying to Mr. Palmer, Mr. Murugesa Mudaliyar aaid: The Government ought to be the guardian of the indigenoas aystems. They have negleoted them for long and civen prominence to the allopatbic eystem. The Government have therefore not shown any sympathy and we are afraid may continue to do so. Ninety per cent of our populntion are benefited hy our indigenous systems.

The President here pointed out as follows: These are days of self-determinalion. It you determine that the Government should give up ite prejadice and establinh an independent department and institations for the A yorvedic, Unani and the Siddha syatems of medicine. and that the medical registration board should be oomposed of elected members, all that will have to be oonsidered. Prejudices are things of the past. Medicine ie a Transferred auhject nnd it is in the hands of your Minister. It is you that eleot members of the Legislative Council and the Minister is an eleoted member of the Council. This is oue of the bleasinge of the Reform scheme. So be bopeful.

Mr. Murugeas Mudaliyar continuing asid: We handle about four or five handred medicines. I can find a prepared medicine by sight, whether it is spurious or false.

Replying to Mr. Natesa Sastriar Mr. Madursimnthn said: Western knowledge can be given in Tamil. Mang. books have been translated and materis medica can be learnt when translated. A separte college may be necessary for the Siddha system or oven if in the same colloge separate staff would be necessary for the 8iddah ayutem an the text-books are separate from other systems. On the whole, State encouragement is necessary. The President of the Board should be a non-official.

Replying to Mr. Arumugam Mr. Marugess Mudaliyar said: Spocial diseased like Navattikachal, Olamanthai, Antharavettai and Thashushashai can be trented in any ayotem provided that the tri-Dosha theory is correctly understood. The medicines are of oourse peculiar to the peculiar diseases of each conntry; but whatever may be the nature of the disease if a drug cannot be bad, a substitute drug with the same qualitien can be had. Neervalam which according to some people originally oame from Nepal can be used in any place. Allopathic dortors use quinine where we use Vembu and Purasu. In the case of a serpent bite where the pulse bad stopped beating, some tests other than the cxamination of the pulse are prescribed. The pulse may be examined in some of the ten places where they could be felt. But if they could not be felt in all the places, other teste like the water test and beating at the buttocks are laid down. The teste can be applied even in the case of children.

Mr. Muthia l'illai said: The Sanskrit works and the Tamil works proceed on the same basis. Dhanvantari was followed even by Siddhara and Therayyar. In support of my atatoment I can point out to the passage of Therayyar where he bows to Dhanvantri and proceeds to eay some thinga following the Sanskrit works. Drine test is dealt with in both the Biddha and the Ay orveda systems but not so exhaustively as in the Unani aystem. I have read and I am ready to explain in detail the test as laid down in the Unani eystem. Even in the case of pregnant women, there is a simple test to find out the pregnancy. We are asked to place a few leaves of Poonakanji in the urine of the woman and if black dote are formed we can concolude that there is Vatha. If on the other hand the black dots outnumber the red onee we can affirm that abortion would ensue. In my opinion a study of the Tamil Siddha eystem would take about foor years though there would be no end to the study of knowledge of any kind. Regarding the urine test I can confidently assert that no syatem exoept the Unani deals with it in an exhaustive manner. I have got about 16 books to be pnblished relating to the aulject which I hope would be of immense benefit to the world. The Hakims know how to distinguich between male urine and female arine. It will be possible to find out whether s girl bas attained puberty or not from the urine tested in the manner laid down both in the Biddha and the Unani aystems, whereas in the Allopathio system a lady doctor will be necessary for purposes of examination. My father has published a book containing 74 antrams out of 740 on the subject. He has dealt with only the Vatha, Pitha Jwara, Sannipatha. Terayyar has produced 12 works. Some stanzas in the Mahabharatha bear a medical interpretation. The five brothers are com. pared to five metals, iron representing Dharma, ailver Sahadeva, Lead Bheema, copper Arjana while Panohali represents sulphur. The sy mptoms of diabetes are clearly explained in onr booke
and the specific for the disease is a decootion of Neerkadambu, Aloes, dried ginger, pepper and thippili. We have tried this in several cases.

In reply to Mr. Subrahmanya Ayyar he said: We intend publishing the works, provided aid is given. Sixteen works are ready for publication.

Mr. S. S. Anandam said: The Tamil system of medicine is not confined to South India. It is prevalent in Ceylon, Penang, Singapore and Madagascar. In all these places the Siddha system is followed. Tne preparation of medicines at several places like Pondicherry, Cochin, Kumbakonam and Karaikal was stopped either by Government or by somebods. It will be a great benefit if the Government see that it is revived.

Vaidyaratna R. Bharatha Sastri and Vaidhya Bhupathi S. Krishna Rao appeared jointly for the Madras Agurveda Sabha.

In reply to the Fresident they aaid: We are practising in Madras. We are treating almost all diseases without any difficulty. We do not feel the need for consulting English doctors. We do not nse English medicines. We do not treat surgioal cases. One of us was a student of the Venkataramana dispensary while the other studied medicine under a Guru. Many English doctors themselves do not praetise surgery and we do not think there is any necessity for us to learn it. Oar medicines are very very cheap. Wo have many grievances against the system of medioal registration. We are not able to register ourselves and our certificates are not olways honoured. We hope the disadvantage would be overcome by the system of registration. But until Ayurvedic and Unani institutions are hrought into existence, the system cannot work well. Ayurvedic doctors should have the supervision over medioal registration. No restriction should be placed on the purohase of medicines.

In reply to Mr. Palmer the witnesses said: Our books are written it Sanskrit. There is no dnubt on our part regarding the nomenclature of diseases or druge. Some drugs have not yet been properly indentified. For people who understand the language there is no doubt or ambiguity. The maintenance of an Ayurveda college will cost about Rs. 3,000 a month for 100 students. The cost therefore would be Rs. 36,000 a year including olasses on surgery.

This exeludes bospital expenses.
In reply to Mr. Nadesa Sustri the witnesses said: The. Madras Ayurveda Sabha is an as sociation of physicians. It has some 50 or 60 members. It was established in 1918, and Pandit Gopalacharlu was the President. Now Mr. Doraiswami Ayyangar is the Vice-President.

Replying to Mr. Subrahmanya Ayyar Mr. Krishna Rao said: I deal with the Ayurveda Siddha vaidyam. I have read both the Siddha and the Ayurveda systems and know metallio preparation. I find no difference at all in the general prinoiples in the two systems of treating diseases. The difference between the two sohools lies in the language and in the method of preparations; in both vegetable preparations are used and in both lehyams and bhasmams are administered. But the preparation of medicines is in different ways in the two systems. Charalka has stated it in one way and Sushruta another.

Replying to Mr. Arumugam Pillaz the witness suid: I was given the title of "Vaidya Bhupathi" at the Tinnevelly conference. At times, rasa gandha pashana prove more efficacious than the lehya and thaila.

Replying to Dr. Lakshmipathi the witness said: (Mr. Bharatha Sastri): I have been honoured by the Government with the title Vaidyaratna. But my certifioates are not honoured by the Government, by the Government courts and offices.

In reply to the Secretary, the witness asid: I was working for a long time in the Mylapore dispensary and I was connected with the Cannan Chettiyar's dispensary for seven years. We do not undertake surgioal cases. We treat them with thailam, eto. While I was in the Venkataramana dispensary there was no surgical department. It will of course be useful if there is a surgioal department, but it must be based on the principles of Ayurveda.
A. Z. Muhammad Latifudlin Sahib was then examined. Replying to the Chairman, he said : I have made a comparative study of the Unani and the Siddha systems. I praotise in Trichinopoly. I administer both Unani and Siddha medioines. Those who like the treatment aocording to the Unani system are given the medicines prescribed in it. I have made a very little study of Ayurveda. I learnt the Unani system from my father who was a Hakim and also partly from Mubammad Hakim Sahib of Trivandram. In. Trivandrum I atudied for six months in the Ayorvedic callege. I was in Trivandrum some 20 years ago. There was a Siddha private school also there. Sanskrit works were translated into Malayalam, I know Malayalam and also a little of Arabio. There are certain medicines in Unani whioh prove very effeotive and similarly in the Siddha system, there are certain metallic substanoes whioh act atrongly. The Siddha aystem is a very old one. From time immemorial it has been practised in India even before the advent of Sanskrit. I prefer Siddha system to Ayurveds beoause the medioines prepared out of the metallic substances and the poisonous substances are more effective when properly administered. The vegetable substances prepared under the Ayarveda system are not sometimes so effective. Dootor Ajmal Khan has combined both these systems in his Hindustani Dawahkhana. "Miseri" is the name of Egypt, and Unani for Greece. Miseri and Unani are two adjectives. . Miseri people used poisonous and metallio substances, Miseri is more

Biddhs Vydiam than Ayarvedic. I have gone through a book written by an Amerioan in whish he saye that some 12 or 18 thonsand yeare ago, even before the Suee onnal wae dug the Arabe used to come to South India when they took this aystem from here, and cultivated it and aalled it the miseri system. The miseri bystem makes use of poisons on a large sonle as the 8iddhe ayetem. Even in the Ayurveds system some vegetables contain poison. I do not ume any Englich medicines. I have oured oases of Malaria by Unani and Biddha medioines. In tho Sidjha syotem we have a preparation from margoea, nilavembu and alum, a bhamam of alum with a decoction. A lavana dravatam is also administered. According to the Unani I prosoribe Zabarmors with some other substances. Zaharmora stope vomitting and kills the malarial germe. I use it with ohirayatha and a preparation of sulphur. Ayurveda is based upon the Tridoaha syatem. I try to oure surgical oases by meane of external spplioations ae well at intornal medicines. If there is anything inside the abdomen we ane certain smokes, The indigenous medicines are very oheap. If Ifail in my treatment under the Unani system I reart to the Siddha system. Medioal knowledge oxoepting surgery is perfoot in both the systems. For casee of relnpsing fevers we have certain decootions which effect a cure. An long as medioal registration is left to the allopathic dootors we will be at a great disadvantage. The institutions for the enoouragement of the indigenous systems of medioine should not be subjeot to the control of the Surgeon-General.

Questioned by Mr. Palner the witness deposed: Enteric fever is desoribed in our books It is called Isahali. In cases of enteric fever we test the arine and a ofmptom of the fever is that the tongue is affected. From the colour of the orine we infer the disease. Our books give the duration of the fever from 14 to $\& 1$ and somatimes 40 days even. Our books aloo apeak of the relapse of such a fever, if the patient is allowed to take solid food. The modern physiciane may that chlorine misture will onre the patient but leave the final cure to nature. We have got on the other hand definite medioines prescribed. In Triohinopoly a ohild was suffering from such fever and the allopathic doctors left it as hopeless. I treated tho cass with Unani medicinos and sucoeeded. Metalio preparations are injurious to the system if administored reoklessly but if they are prepared properly and administered in the right way they are not harmful at all. We want the Government to help the Ayurveda system; for it is an indigenous aystem. Unani, Siddha and Ayorveda systems are suited to the olimatio conditions and temperament of the people and hence the Government are boand to help and enoourage them. I do not arge it entirely on the basis of patriotism. These systems cannot be taught in the Government Medioal Colleges; a separate training is neoessary. Surgery may be inoluded in the course of training in the indigenous systems. Anyhow separate colleges are necessary for the indigenous systems. Medical soience is progreseing no donbt; and we are prepared to assimilate all knowledge from whatever souroe. But as far as my knowledge goes each system is self-contained.

In reply to Mr. Natesa Sastri the witness said: The Government oan help the indigenous syatems by starting schools and colleges, by asking the municipalities, the taluk, and the district boards to maintain such institutions and providing them with funds. The same college may afford instructions in the Siddha and the Unani systems separately. I have heard of the Dravids Vaidya Mandal. I was invited to the Conferenoe held at Kaniyor where I had a reaolution to move regarding the conferring of titles to Vaidyans. I sympathise with the three aystems, aince they are all indigenons. I am a member of Siddha Vaidya Sangam and aleo of the Ayurveda Sangam.

In reply to Mr: Subrahmanya dyyar the witness said : It would be a great disadvantage if in the college teaching the western systems of medioine, the native oystemy are aloo tanght and option be given to the pupils to choose their system. For, in conrse of time, I am afraid the allopathic aystem will become supremes. From time immemorial the Indigenous aysteme have been existing. The allopathic doctors will then borrow something from the indigenous aystems and amalgamate them and compile a new pharmacoepia.

Questioned by Mr. Arumugam Pillai the witness continued: The pulse is treated in the Siddha and Unani systems rather more elaborately than in the Ayurvedio system. Nadeen are spoken of in Sarangasamhita, but I do not know of it in detail.

Keplying to Dr, Lakshmipathi the witness said: Patriotism and experience make me believe in the indigenous systems. I agree with the view that the more and more the Britieh anpremacy was established in India, the more and more was the deoline of the indigenoas aystems. I believe also in the converse proposition that the greater the supremacy of Indians in the administration of their own atfairs the greater will be the progress of the indigenous syetems. The question is not merely a commeroial one but affects life and death. We cannot thruat allopathic medicines on persons constitutionally unfitted to receive them. For the constitution the climstic conditions, the habits and food of the people of this country the indigenous systems are the best suited. I think that onr native aystems will not thrive eren if they are taught as compulsory subjects in allopathic medical colleges. For the teaching in Allopathy will be given undue predominance.

Ruplying to Mr. Natesa Sastri witness said : I do not know whether the book on Neerkuri. refers to any Sanskrit book

Replying to the Secretary wituess said:. I did not say that Hakim Ajmal Khan was of opinion that the Unani aystem is based upon the Siddha aystem. Medicines based upnn the Miseri and the Siddha systems are prepared in bis Dawahkhana. If Hakim Ajmal Khan had lived in South India, and bad been enlightened in and made inveatigations into the question, I am sure he would come to the same conclusion.

- At this stage the Committpe rose for lunch.

The Committee met after lunch when they examined Messre Venkalachala Sastriar, G. Subramania Sarma and Narayanastoami Ayyar.--all of the Dravida Vydia Mandal.

Mr. Sarma, replying to the Chairman, said: We nudertake tbe treatment of all medial cases. We do not employ any English medicines. Surgical cases do not come to us. We can cases. We do not even eurgical cases with indigenous medicines. We have got a theoretioal knowledge of sargery and we want the art only. We have no objeotion to the teaohing of modern surgery. Mr. Naray anaswami Aysar is practising in Shiyali while we two praotise in Madras. Mr. Mr. Narayanaswamy Ayyar follows the Siddhe system while we two follow the Ayurveds. Our medicines are very cheap oompared with the others. It costs on an average for a patient from 7 pies to one anna and a half at the most. If the Government open a dispensary the cost wilk. be very small. I have submitted a statement to the Trichinopoly manicipality where the Chairman proposed to open an Ajurvedic Dispensary. I have given him almost all the information. At my suggestion he got a Resolution passed in the Counoil sanctioning Rs. 3,500 to start a trial diapensary. The dispensary is not yetopened. I stadied medicine under my brother Mr. Natesa Sastrigal while Mr. Venkatachala Sastrigal studied in the Venkatarama Dispensary.


Irr. Penkatachala Sastrigal said: Surgery is taught in the Venkataramana Dispensary. They are also giving practical training in minor surgery in the vernacular. Surgery was introduced after I left the institution. My view is that there should be Medioal registration. But the registration should be by a board of indigenous practitioners. A separate board for eaoh of the three systems may be formed or all the three systems may be represented in a single board. The board should be under the control of a man other than the Surgeon-General. If the board is under the control of the Surgeon-'teneral he will influence it. A separate offioer is neonssary as the question of doling out contributions to the various institutions comes in.

Mr. Sarma said: I am dead aganst Medical registration, beosuse it is pregnant with so many difficulties. Competent people will he kept aloof, as they won't like to come forward: I do not thint any advantage is gained from the system exuept the honouring of the certificate given. I want the law to be as it was before the Registration Aot was passed.

Replying to Dir. Palmer Mr. Venkatachalla Sastriar said: If the Government establisk indigenous bospitals, the allopathic hospitals need not be ciosed. They may be working side by sido. We are confident enough to treck any disease irrespeotive of the existence of an Allopathis hospital.

Mr. Sarma replying to Mr. Palmer said: The stadents of the different systems should be trained in separate Colleges. If we introduce indigenous oystems along with the Allopathio systems they will have little time to study either. From the eccnomic point of view it may systems they will have perhaps he convenient for the Government to introduce indigenous systems along with the others. But I am afraid it will not help a thorough study of the indigenous systems. The indigenous colleges will be efficient as the allopathic inatitations if sufficient grants are given; more money should of course be got for on by the M.L. Cs.

Replying to Mr. Natesa Sastriar, Mr. Narayanaswami Ayyar said : I really believe that the Siddha system is based on science. The old sohool of medicine was based upon a cosmic prinoiplo. It was believed that man conformed to the cosmos and got his origin from the magnum limbus. The same kind of theory is dealt with in the Vedas, and in the Tamil works. I will call the present Sidiha system as a doplicate of the old system. For, it was the old mythical syntem which drifted into alchemy. The Siddha theory is that man is an immortal being and inasmucb as he is born he should be living. That was what they have been doing. That has beon forgotten by us. Only the piok of the nation has got that knowledye even now: Under that system, the role of medicine was treated thua:-The whole creation has been: divided into 212 details. Thing have been classified into Bhasma, Charna and Sindhara. As an additional thing vegetables have been used. This theory is to be found in the Vedas. In the Upanishady these have been treated well. At a later stage in South India in the absence of that knowledge they have taken salt as the basis and oreated a modern sohool and called it the Siddha sohool. The oriterion according to this sohool is that anything can be taken under the Satru mitra or Nadabindu olass, dry and wet. In the absence of that knowledge of the mystios and the knowlodge of the salt, they have taken the vegetable world as the chief constiluent of medicines and have added minerals as adjuncts to it

Keplying to Mr. Subramania Ayyar Mr. Sarms said: When there is an attaok of a disease, before going to any neighbouring doctor, I will of course consult whether he is learned in the snbject, and when such consultation is not possible, I will give him a trial.

Replying to Dr. Lakshmipathi the witness said: According to my sysiem details of which I have given in my written answer it would oost Re. 4,000 a year to run an Ayarvedio dispensary. Of this amount taking away Re. 160 for instraments and Rs. 108 for furniture
and Rs. 120 for mivellaneoas charpes, which are uon-reourring charges the reourriag chargw will be about $\mathrm{Re}_{\mathrm{s}} \mathrm{B}, 600$ a yeer. I think that this is far cheaper thin the Allopithio hospitals whidh are being maintained. If I am to futthar redace the estinatee I can only reduce the malarice of the physicians. Everybody eannot be expectel to work honorary, besanas be bing got to live. Bat if people are well placed in life they oan work for an honorarinm, if thav are so inolinod. So in some cases where we can expeot hnoorar) workere the expenditare of R. 8,(00U neal not be incurred. Bat as it is, only poor peoplo come to staly Agurreda and most of them ounde afford to be bonorary. Miy estimates wore bised ou figures. I have worked out for the be uefit of the ehairmen of the Trichinopoly munioipalitr. Tho District Medical nad Sanitary Offios of the divicion was aaked to sulmit a proposal for the establishment of a dispensars and hia eatimate amounted to Re. 18,000. This is what I heard from Mr. Rathnavola Thovar. I told the obairman that I can run a diapensary between 8 and 4 thousanda. He asked me to prepars an eectimate and I aubmitted the echeme. Compared to the estimate of the Distriot Modioal and Sanitary Officer, mine is very cheap. For the manicipality of Triohinopoly ea expenditare of Rs. 3,800 may not be muob, But there aro places where the amount may b) ounaidered high. In such places the natives of the place who are well versed in Aynrvela and wha are inolined to work for an honorarium may be offered Lonoraria to minimise the expeoditare. $\Delta$ grant-in-aid may also be given by tho Government to oover the cost of the modicines. When the president of a taluk board asked me to submit a modest goheme I gave ono going up to Ro. 600. But it we are to run a dispengary with Rs. 40 a month, it would be imposesible to mainteia a peon, a doctor, a compounder, not to speak of the honse-rent. As an alternative I suggested thant the local man could be sabeidised and askod to run a diapensary which would lessen the expenditare.

Replying to the Secretary, the witness said: It is n fact that the Biddba aystem hae developed the system of pulse examination to a special degree, as also the preparation of minerals. It would of coarse be to the interest of praotitionors all over the world to get eome of these points from the Siddha system and ineorporate then in thoir ofstem whatevar it may be. I agree to the incorporation of these things of Siddhs system into the Ayarroda system.

At this stage, Mr. Nurayanasicami Ayyar said that he attempted to solve that question in the Bose Institute but was not permitted to do so.

Continuing, Mr. Sarma said: I have absolately no objeotion to incorporale the foreign systems if they do not clash with ours. Both the systems asy that the alticanate partiolen are built up by the Panchabhuthas. Thes agree in eayiag that man is jeeva plus mind plue body. Ther agree alao in regard to the Tridoshas. In ay uptounology also they agres. In the matter of treatment each has specialised in its own way. So there are more similaritios than differences. It is of course true that unless the ductors of allopathy know the A yarvedio physiology and pathology and know the action of the drags in terms of Doshas and Dhathus, it would be dangerous on their part to have recourse to Ayurvedic medicines. That oumes to the question of chemical reactiou in the body itself. It depends entirely upon the constitation of the man and the diet. It way not be dangerons provided the doctors know the mode of preparation and if their diagnosis is correct. The diagnosis is the samo as for the modern and the indigenous systems. Treatment in Ayarveds has reference to diagnosis. prognosia end patbology. For example, where the allopathio doctors treat a disease as an affection of the longe or the thermogenetic centre, we speak of the disturbance or excess of Vatha or Pitha and so on. It will be dangerons if a doctor of allopathy thinking in terms of oirculatory or otieer allopathio pathology uses the Ayarvedio mediciaes. Such a danger will not arise in the case of the Siddhe and the Ay urveda syetems, for they ugree on the basis from which they proceed. Hence we osn safely say that as between the two systems siddha and the A jarvoda, the resemblanoes are more than the points of difference.

Mr. Narayana Ayyangar of Madara was the next witness examined. In reply to the Chairman be said: I come from Madura. I practise in Siddha and Agarvelio systems. 1 learnt Ayarveda in Umacharan Bhattacharaya's college at Benares. I learnt 'Siddha from my Guru. Both proceed on the Tridosha theory. There is practically no difference between the two systenus. The antiquity of Ayurveda can be traced with sufficient acouracy. The treatiwent in indigenons systems has referenoe to three thinge, viz.; the Minerale, Rasas and Uparasas, and Nadis. There are 27 Kasa siddhas. Of them Ravana, King of Ceylon, is spoken of as the Pravarthaka of the Nadi sastra, and Charaka and Enshrutha, of Moolikais. Some esch of these has amplified a partionlar branch. Both branches lived side by oide. I have tried English medicines; for example, I have been using quinine purely for purpose of experiment for cases of malaria. I' give nsually Papudal and Kadugurohini in such cases. As for surgery operation is only one of the 63 methods spoken of. We know to use certain Ksharac and avoíd operation. Impossible cases are of coorrse left to English doctors. I have atudied surgery. I practised minor surgery. I use the knife in cases of amall boils. Our medicines are very oheap. For several diseases the cost of medicine for seven days would come to a pioe. We can specially cure leprosy, rheumatism, dsepepsia, enlargement of apleen, enlargement of liver and other casen. Paralysis is very successifully treated by A5urved. Medical registration is very objeotionablo. We do not want it in the first place. Medical collegee should be opened, examinations held, aud certificates given before medical registzation could be bronght into efleot. At present it is not necessary. All the present physicians cannot be included in the register. Bat if all people
can be included, the objection can be got over. The board should consist of indigenous praotitioners. If indigenous institations are brought into existenoe they should be under an officer quits independent of the Sargeon-General. I know the opinions of many" of the SurgeonsGeneral on the indigenons syatems of medicine.

Questioned by Mr. Palmer, the witness said: I have cured rabies. We do not kill the dog in such cases. We have cured 25 per cent of the cases. I was myself bitten and I was cored. I had fallen senseless and had fits when my father treated me and I have still impressions of the dog's teeth. Leprosy is spoken of in our texts. It is of several kinds. In advanced cases, in cases where English doctors feel helpless we oure two cases out of ten. We attribute the failure of the medicine to apathys. It is so even in the case of English doctors who also prescribe the diet of the patient.

In reply to Mr. Natesa Sastrigal the witness said: Afarvedic system treats fully well, with mercury and arsenic. Arsenio and others are prepared by the Ayurveda physicians. English sybtem is no doubt insufficient. For instanoe, in the case of plague, they declare a war on rats and not only mer batalso the rats are in danger. A.s for special merits of Ayurveda, the ordinary fevers, which last at the most for ten days, and whioh, according to the English dootors go on for even forty days are cured in very much shorter time. In several cases the English doctors merely do experiments. Though diseases are protracted, a recovery is effected earlier by the medicine. Ice bags are described even in Ayurveda. It is well described for external application. . The English doctore say that a steam bath will be good for evergthing. We know where such a treatment will be efficacious. Cold treatment should never he resorted to in the case of Sannipatha Jvara. But it is effective in the case of Ushna Adhika Jvara, Muppu is not mentioned in Sanskrit book: Muppu is neoessary only for Vatha. Since the Tamil system comprises all the divisions in the science of medioine, its books make mention of Muppu. I know Pandit Gopalacharlu's opinion on the Siddha system. His endeavour was to bring Tamil physicians into the Dravida Mandal. Therefore he spoke high of the Siddha system. He wanted to assooiate both the sohools and wanted to get Tamil physicians certified from the Vidya Peetha. Syphilis, though it is not mentioned in Charaka and Sushrutha, is mentioned in the later work, Bhavaprakasa, where it is spoken of as Pheringirogam. The Vispote, Kushta referred to in the Charaka is in my opinion oorresponding to Syphilis, Since the disease originated in the country of Phemingees it derived that name.

Replying to Mr. Subramania Ayyar the witness said: I know typhoid fever. An English doctor has translated it to mean Sannipathem. It is in faot called Santhatha Jrara. It will last for 7,12 , or 25 days. But with proper treatment it may be oured in ten days.

Keplying io Mr. Arumugam Pillai the witness said: There are 18 Tamil Siddhars and there are 27 Sanskrit Siddhars distinct from them. The Agastra system is complete. The Tamil Siddha Parampara comes from Eswara. Excepting the difference in the names of the Siddhars in the two sohools I do not find auy difference between the Sanskrit and the Tamil schools. In the Sanskrit books only the names of the Rasapashanas and a little of their application are apoken of. Their preparation is not dealt with. Deevodasan was an inoarnation of Dhanvantari, and 'Dhanpantari it was that oame down as the King of Kasi. Oharaka is an incarnation of Patanjali. The Sanskrit Acyrveda Parampara goes baok to Brahme while the Semskrita Siddba Parampara is a Saivite one. Though alchemy was studied in the days of the Charaka, it was not dealt with in the book as it related to a different branch of medicine. Charaka is older than 60,000 years. I have seen practically that thore is no difference between the Sanskrit Siddhe and 'l'amil Siddha systems.

Questioned by Dr, Lakshmipathi the witness said:-I rely for my statement that the Charaka is 60,000 years old on the inference of the German astronomer Gerger who referring to the Bheshajasamhita and proceeding upon the data in the Brihatsambita relating to Uttarayane and Dhakshinayana arrived at that oonclusion. In the Bhavaprakasa the disease called Syphilis is said to have derived its name "Pheringeeroga" from the faot of the contaot of our men with the Pheringee women.

At this stage the Committee rose to meet the next day.

# The Commillee re-assembled af 1-30 p.w. on Triday the 29 in Soplember 1922 at the Commithe room of the Council Chambers, Fort stl. Georgs and ths follswing members were present:- 

(1) Khan Bahadar Morivmad Uayan Sarim Babadur (Chairman).<br>(2) Mr. A. T. Palyer.<br>(3) M.R.Ry. T. R. Rayachandea Atyar Avargal.<br>(4) Dr. A. Latighmipatill.<br>(5) " M. Sobzaryanya Ampan Avargal.<br>(6) M.R.Ry. K. G. Natrsa Baetbi Avargal.<br>(7) " C. T. Abomogam Pillai A rargal.<br>(8) Dr. Srinivasanurti (Seorotary).

Mr. V. Ponnuswami Pilai K. M. Hall, Kumbatonam, deposed as follnws:-
, Replying to the Chairman : I practise the Siddha system of medioine. I have stadiot the Ayorveds systom and practise that system also. There are only alight differences betwen "the two. There is no difference regarding Tridosha. Both the aystems are baned on the avme principles. I treat almost all the cases that oome up to me. I know eomathing of Euglish medicine also. Sometimes I use them also. I was for somotime in private dispenesrios and learnt them. I do not find much neoessity to use them. I nee medioines like the oarbonata mixture. I do not use quinine. I treat malaria by indigenous desoctiont and churnams. For ourgical cases I use internal medicines and external applications. I did not learn madioine in any school ; but I belong to a hereditary family of physicians. Indigenous medicines are much oheaper than English medicines. I have given in my note my opinion on registration of indigonous practitioners. I can answer the question better if you will kindly explain to me what is meant by Medical registration.

Replying to Vir. C. T. Arunugam Mudaliyar: Tamil sshools are absolntoly essential if the Tamil systern is to be improved. Medical registration is necessary.

Rao Bahadur A. Krishnzswams Ayyar Avargalifor:the Venkataramana Oollege and Dispensary deposed as follows.

Replying to the Chairman: I appear on bebalf of the Venkatramana Colloge and Dispene sary, Mylapore. I am no medical practitioner mysolf but I take much intorest in the Ayurvodio system of medioine. I bave a fair knowledge of the theory and practice as it obtains in the dispensary. There is no difficulty in the treatment of any of the cases that are brought to the dispensary. There is a renord of the cascs treated there; there are somy importsit reoords which are worthy of note; I am sorry I have not brought them here; I shall gladly send them, All classes of people without any distinction are treated in the dispensary. Adi-Dravidas, Muhammadans and even Eurasians resort to the hoapital. No English medioine is osed in the dispensary except quinine in one preparation-pralapalingennaran-and that too in a umall quantity. It is preseribed if tho ayurvedio modicine dues not gield quict results. As for surgery, vo case of surgery onmes up to the dispensary exoept minor aurgioal oases. We toash minor sargery in so far as it is developed in Sus/irutam. Phyniology and analomy aro tanght in the college by Dr. Rajam Agyar. Modern minor surgical treatment is also taught to the atudente by the same gentleman. The indigenous medicines are certainly cheaper. I bave worked out the cost per patient at two to three rnpees every month. My own opinion is that in come chronic cases the ayarvedic medicines are more effoctual than allopathic medicines.

Asked if he had any direct knowledge of cases classed as surgioal by allopath and reoommended treatment by surgical measures, onred in his hospital by medical means, witness atnted he had direat knowledge of a case of piles where a patient afraid of undergoing an operation oame to the hospital, was given Kankayapatanam and was cured.

Physiology and anatomy are taught in Tamil. Stadents are tanght other subjects in Sanskrit and Tamil. As for Medical registration of indigenons practitioners, it is a general question, It is a very desirable thing but I fear it is impractioable at the present time. I have no objeotion to the course adopted in England when medical registration was first introduced there, viz, that of registoring every one practising at the time and after that of insisting on partionlar qualifications for registration of new practitioners.

As for the constitution of the board for the registration of indigenons practitioners, I do not see why other practitioners also should not be incladed if they are eympathetio people. People like Dr. Lakshmipathi and Dr. 8rinivasamurti will not do any harm to the indigenons practitioners. I thint the expansion of the present board by the inclasion of indigenowe practitioners will be better than the constitution of an entirely new body. I bave no objection to havo an entirely new body, bat I think one board for both will lead to more co-operation between the two. There is a sort of prejadice of the one againut the other and it mast disappear.

As regards the Head of Indigenous Medical Department, it is a delicate question. If is. doubtful whether we can expect sympathy from an allopathic doctor.

- To hegin with, let us have the departments separate ; afterwards we can decide which is better. In the beginning, try separate department with impartial and oompetent people as heads Instead of one, have a board of two or three to be in charge of the department. I prefer to have a board of two or three instead of one man.in oharge of the indigenous department.

Asked why he wishes a board to preside over this department when such is not the case anywhere, the witness repliod: By all means, have a man in charge of the department; but let there be a board attached to the head. I should like to have a olieck against the idiosynorasies of one man.

Replying to IIT. A. T. Palmer: The whole indigenous aystem has fallen into the backgroand and surgery with the rest. I cannot say exactly why it has fallen into the background. In seme villages there are barber practitioners who do minor operations.

Asked whether it was not a fact that many quarks praotise indigenons systems and bring disoredit on them, the witness stated: We oannot answer the question. Each oalls the other a quack.

Even those who have not received satisfactory instraction sucoeed in troating a number of cases which could not be successfully treated br regularly trained men. I think medical registration will be useful, but I fear, as I observed before, it will he impracticable at pressnt. It will be possible to employ improved methods in the preparation of medicines. There are many dravakams which we prepare with the help of retorts. No doubt, all the physicians do not follow exaotly the same methods in the preparation of the various medioines. Each physician follows the method prescribed in the book he follows. Some of the physioians do purify certain drugs a hundred times if it is so laid down in the books, and others do not. It may be diffiealt; time, troable and money may be required; yet all the medioines are capable of heing prepared. l oannot say whether there are medicines referred to in books but which have not yet been prepared. My dispensary does not prepare all the medicines referred to in books.

Replying to Dr. M. Subrahmanya Ayyar: It will be advantageous to the publio and to the students if the students of the Medioal College are asked to undergo a oourse in Aynrveda. After leaving the college, he oan use either Ayurvedic or Allopathio system as he ohocses.

Replying to Ufr. A. T. Palmer: If the students know Sanskrit aud are taught Ayarveda in the Government Medical College, I do not think why there should ba any objection; only sufficient time should be allotted in the sohool. Three years'. study after a medical stadent graduates-or two Years if he knows Sanekrit-will be enough for the study of Ayurveda. It will be difficult to frame a curriolum suitable to both the Allopathio and Ayurvedic systems to be taught simultaneously.

Asked bij Dr. Subrahmanya Ayyar if both oould not be oombined, the witness stated: If jou have the time and the method ready, do it.

Replying to Mr. C. T. Arumugam Pillai: Asked if there were no medicines in Ayurvedio sy stem which will be as effioacions as quinine and why they should go in for it in his hospital, the witness stated: There are so many fancies. You nse one medicine for a few days; if there is no speedy oure, you want to change the medicine. Generally the Ayurvedio medioine is first used. If either the doctor or the patient is impatient, the medicine is ohan red and that which has some quinine in it is administyred. Whether we are to have separate sohool for Aypurvedic and Unani systems of medicines all depends on the time and money at our disposal. If it would be possible for a Muhammadan student to learn Sanskrit together with Urdu and Persian, he can certainly study Ayarvedio system; if a Hindu stadent is able to read Urdu and Persian in addition to Sanskrit, he oan certainly study Unani system also. I believe it will not be possible for them to do so. Therefore, I am of opinion that there siould be separate sohools for teaohing Unani and Ayurvedic eystems. It is better if Siddha system is taught to those who learn Ayurvedio System.

Asked whether we are to translate Tamil books into Sanskrit or Sanskrit works into Tamil, the witness stated: It is better that these who know Siddha aystem learn Sanskrit and then stady Apurveda. Of course, it will be good if there are separate sohools for teaching Siddha System. We are troubled for money even for one school; how are we going to have different schoole for Siddha and Ayurveda aystem?

Replying to Mr. T. R. Ramachandra Ayyar:-There will be no trouble to teaoh Siddha A yurveda to our students as they know both Sanskritand Tamil. The basio principles of the two Byatems of Siddba Ayarveda and Ayurveda proper aro the same; I do not understand the difference between the two. I'hey proceed on pitta, vata and sleshma. The only difference is as regards the recipes. There are some lehyams used by both the systems. There are some leaves like musumusikkai which are known to the Tamil system and which are not known to the Sanskrit sratem ; there are othere known to the Ayorveda system and unknown to the Siddha syrtem. Siddhs system deals specially with preparationis of metals. We have in Sanskrit Rasaratna samuchchayya. In using the prescriptions of the Ayorvedio books, there would not be any danger as they are mainly vegetable preparations. There would not be any trouble in asing the kashayams and churnams. My recommendation is that Ashtangahridaya prescriptions should alwaye be used. Siddhe medicines should be presoribed by physicians of approved ability and who have derived a knowledge of the right method of preparations from father to son. It must
be done only by peopie of renl ability. Really skilled phyniciana alone oan deal with motallia preparations. It is certainly a great advautage for a phssician to know both Siddha Ayarveda and Ayorveda proper. Thero is no real conflict between the twa

The first step to encourage Ayazveda is tho entablishment of an Ayorvedio Collego ; the second is the establishment of an Ayorvedio hospital and three or four dispensarice to atart with.

It is quite essential that the Government should take steps towards having botanical gardens for growing herbs. It will be desirable to bave as mauy institutions as possible all ${ }_{\text {over }}$ the Prenidency where A yarved a will be taught. There abould be an examination by the University on the resalt of which diplomae should be isaued as to the English medical doctors. We can revive the surgery of the Ayorveda.

Replying to Mr. U.T.Arumugam Pillai.-I cannot say whether the leaves found in the Sanskrit books are not all to be found in some Siddha books or other. Generally opeesking however, we may say that some which are found in the one are not to be fuand in the other. 1 have not studied the wholn of the Siddha Sastra; human lifo is not eufficient to read everything.

Replying to Dr. A. Lakshmipathi:-I have not had any applicationa to my Colloge till now from students knowing Tamil only and nut Sanstrit. Asked whether, if he had a dusen applioations to-morrow, be was prepared to admit them, the witnese stated: It you supply me with translations 1 oan teach them. But whether the teaching wilf bo efficient or not will be another question. My own opinion is it will not he. So, I will not admit students who do not know Sanskrit nor do I admit students who know onls Telugu. I want a fairly good kuowledge of Sanskrit in the stadents of the College. According to the present ourriculum, it will be impossible for a stadent who knows either Tamil ouly or Telugu only to stady in my sohool. My recommendation is Sanskrit knowing intermediato or B.A. ot udents should be enoourngod to undergo the cuurse in the College. I propose to give two scholarships of hundrod rupees each to atudy in my College for two years and work in my hospital for another two years. If you wait hundred men for the benefit of the country, you mast give me lis. 10,000 . No doubt, it will be diffioult to get men of the required standard both in eanskrit and the vernacular and also general University course. If the undergraduates or graduates know only vernacular and they come to the College, their snowledge will be only partial and it will not be satisfaotory. If, however, you give me a large amount of money to arrange for special teaching, I may be able to arrange for good training.

Replying to the Secretary:-I am an old-atanding graduate of tho Madras University. I took my degree in the year 1879 with Sanskrit and Physiology as my optionale I wau long connected with the Police Department and familiar with the mode of approaching and investigating a variety of problems that oame before me; I hope I am also familiar with the trend of both eastern and western scientifio thought.

It is my opinion that the Ayarvedio system is founded on good acientifio besia. I any this from the light of both the western and eastern training I have had. Ayotveda atarts with the idea of Purusha and Prakriti. In my opinion, a knowledge of Evolation according to the ancient Indian scientists is very essential for a atudent of medicine. Our Ayurvedio stadents start with instructions on the theory of Evolation as proponnded in our Sbastras.

Instructions in the theory of Anus and the genesis of elements, of the ovolution of microcosm and macrocosm, are necessary for students of Ayurveda. An elementary knowledge of Nyaya and Viseshika schools of philosophy is as essential to the student of A yarveda as a knowledge of Physics and Chemistry, to the students of western medicine. The bases of the 'Chridosha physiology is dealt with in the Sankhaya; in addition to body, Ayprvedio physiology recognizes the mind and the Atma as constituting man. Tbe stady of mind (paychology) is as necessary as stady of body. Paychology is dealt with in Yoga Eastra. To know the physiology of both body and mind, a knowledge of both Sankhya and Yoga would be essential for the student of Ayurveda.

It is nct possible to give any aatisfactory knowledge of Ayurveda by making it an adjanct to the present curriculom of four or five years of western medicine. I do not think it is possible.

To revive the Ayorvedic system, I woold secure an intermediate or B.A. student knowing Sanskrit and give instructions in an Ayurveda Oollege for tbree years, and then pat bim through a two years' apecial corriculum in a western Medical College and afterwards train him in an Ayurvedic hospital for two years. Thus it will be seven years, inoluding the practical conrue before he comes out for practice. Surgery and midwifery must te taught during the two years of training in western $M$ edical College. Asked whether that wuald ibe enough to seenro efficaoy, the witnees stated: I said a special curriculam was necessary. As regards surgical operations, there are lots of people who bave undergone the medical course, but very few of them take up surgical operations. It is only minor sargery that is practised. A man may be a good physician without being a surgeon.

To give the benefit of Ayurveds to the weatern practitionery, I woold recommend that a body like our University should institnie a eot of post-graduate course where all western and foreign practitioners coold altend the lectures delivered by real research professors in Ajurveds. It will be useful to them in addition to the knowledge they have got.

Ayarveds goen beyond the tissue elements that both it and western medicine recognize, to the Thri-dhatus, vata, pittha and kapha. They cannot be seen by our eyes but can only be inferred. It would be in the best interests of science if you combine both Eastern and Western Physiology. I could not say whether a system of Modical Registration was in existence in ancient times. A good deal of the knowledge of the Nadis is contained in the Tantra Sastras and Agama Sastras. It would be for the benefit of the world if that is incorporated in the modern physiology and psychology. It should be the duty of our University to get into toach with the professors well versed in all those things.

Replying to Dr. Subramanyn Ayyar: It is true that, in particular cases, a physician was required to notify the authorities before he started practice.

Replying to the Secretary: There are advantages and disadvantages in both the Ameriaan system of complete prohibition of unregistered practice snd the British plan of partial registration and giving certain privileges to the registered practitioners only.

Replying to the Chairman: My fret recommendation, in order to revive Ayurveda, is that it should be taken up by people who bave passed through an Arts College. If a student does not know Sanskrit, then give him two years' teaching in general Saaskrit literature and then put him for two sears in the medical college.

I do not think it is possible to teach all the three systems-Ayarveda, Siddha and Unani in the same college. If a Muhammadan stadent wants to learn Ayurveda, he will have to know Sanskrit. My contention is that a knowledge of Sanskrit is essential to learn Ayarveda. To begin with, they must first get training in the Ayurveda College, and then only should they go to the Medical Coilege. My impression is that English medical graduates are saturated with western notions. The most desirable thing is to have a separate college for Afurveda, and also separate hospitale.

Replying to $\cdot \mathrm{Mr}$. Palmer. In the ideal coilege that $\mathbf{I}$ am thinking of, there must be provisiou for giving training in allopathio system also to Ayurvedio students, and vice-versa. If this is done, fewer mistakes will be committed than is being done at present.

Replying to the Chairman : As much time should be devoted to the teaching of Ayurveda as to the teaching of allopathy.

Replying to Mr. Palmer: For an allopathic doctor to employ indigenous medicines, without jeopardising human lives, it is necessary for him to learn how it is used in indigenone systems and the diseases and the stages of disease it is used in.

The Committee rose for lunoh at 3 p.m.
The Committee re-assembled after lunch at 3-15 p.m.

## Mr. KI. Sesha Ayyar was called and deposed as follows.

Replying to the Chairman: I am not connected with any public hospital. I am a private practitioner. I have got a pharmaoy of my own.

My impression is that in the ancient world India held the same position as England holds in the modern world to-day. That is, she was the oentre of all that was highest in oulture and oivilization. We have got traces of evidence both from the Persian and Arabio books and from ancient travellers to asy that many of the Sanskrit works were translated first into Persian and Arabic and then into Greek and that formed the basis not only of the Unani medical scienoe but also of the allopathio system of treatment.

The Sastras which treat about mercury and kindred mineral substances. are called Hasa Tantrams, and the persons profioient in them are called Rasa Siddhas. Rasa Siddhs was a term applied only to those people who handled mercury and kindred substanoes to the exclusion of all vegetable drugs. So, that branch of science was isolated from the main therapentio branch.

Replying to Mr. T. R. Ramachandia Ayyar : Rasa Hridaya Tantra and Rasa Sara are the books which treat abont mercury and kindred eubstances. I can quote chapter and verse in support of my statement. Miy view is that the Siddha system is only a development of the Ayarvedio system, and that it takes its origin from the Ayurvedic system:-

I have not read Siddha books. From what I heard from Siddha praotitioners, I find that there is not muoh difference between it and Ayurveda. Moreover, the pathology and nomenolatare of diseases in the two systems are identioal. In my dispensary, I undertake the treatment of all medioal cases without excoption.

I have treated oases of plague, oholera and other epidemies by using indigenous meaioines alone.

These indigenous medioines are generally cheaper than allopathic medicines bnt in eases of certain preparations which involve costly thinge like gold, musk, eto., the cost may be nearly the same as allopathio medioines.

I studied medioine under a private jentleman.
There-m no such thing as registration in Bangalore.

I think, however, it is aboolately necesary to have regiatration, but with some provisos. I think the experienced among the existing praotitionere should be inoluded in the list. Medical soience being pro-eminently a practioal eciense, it it necesasry that their experiense and direct knowledge of thinge ehould be taken into conaideration while framing the Modionl Registration Bill.

In the Medioal Registration Board, there should be not only preotitionera of indigenous systems but also some local gentlemen, not necemarily practitioners, but men of influenoe.

I think a separate board is necessary.
I would prefer an independent department manaed by officient men to manage indigevous institutions side by aide with the allopathio institutions.

Replying to Mr. Palmer: I received my training nuder a private practitioner of repatation and experience. I first received instructions in a primary book in Ayurveda, the Barangalara Sambita. Afterwards by my knowledge of Sanskrit and Engliah I improved my medioal knowledge.

I stadied first and then I ooderwent a conrse of practioal training with him. I was a disciple, so to say, under that gentleman for a number of years. I have had about two years' practising under him. After that I stadied many medioal books and even now I am atudying; there is no end to it.

Asked whether indigenons doctors are as oheap as indigenous medicinea, the witness atated: It all depends on the prastitioner; my experience is that indigenous dootors are generally oheaper. In many cases they go unrewarded or ill-rewarded.

I do not think they charge for consultation. It all depende on the idiosyncrasien of individual men.

There may be a handred allopathic doctors in my place and the indigenous doctora may be half that number: I have not made the connting. As to the following that they bave, it all depends on their popalarity. Sometimes people who have resorted to eminent allopathio dootors, if they do not reogive benefit at their hands, go to ns, and vice versa. So far as my experience is concerned, I may say that people resort to allopathic doctors beoause there are not competent indigenous praotitioners in the field. Speaking for myself, I hare got a good clientele.

Replying to Mr. Natesa Sastri: I have studied Ashtangahridya. I stadied it myself after my training.

The first thing in treatment is to apply Panohakarmas as it beoomes neoescary and to set right the disharmony.

The Panchakarmas are Swedana (bringing out perspiratinn), Snehans (labricating), Vamana (using emetics), Virochana (giving pargatives), and Vastikarma (applying enema).

I practise all as the exigencies of the cases require. I practise them aocording to the rulee laid down in the Sastras.

As to the success of my treatment, I can say, withoat any pretension, that 90 per cent of cases have proved successful.

Replying to Mr. Arumugam Pillai: I have taken certain medicines from Unani Vaidgam in my practioe, e.g., Rami Mastaki, Unnabhi and other things.

I bave not read the book in the Siddha system which deals with Mappu.
Muppu is some important agent with the aid of which the baser metals oan be converted into higher metals. There are about 18 samskarams for Rasam and if these 18 samskarams are made, then Rasam will stand the test of fire. These things are to be found in Rasa Sastram. It is treated as Rajapathi Vidya and Hemapathi Vidya. It is not peouliar to Siddha system alone. There is a book called Hasaprakasasuddhakara whioh trents of it. As regarde "magic," I am referring to Tantra Sastra which has got magio and alohemy as its portions. A magic means hypnotism or personal magnetism in modern parlance. It is employed to oust the evil influences that a victim is subject to. It is very elaborately discossed in the Atharva Veda. It is not a new thing. It was very common in ancient India.

Indigenous treatment is decidedly cheaper than allopathic.
Ayurvedic doctors do use meroury and kindred metals. The books which are generally ased in regard to this knowledge are Resendra Sara Sangraham and Yoga Ratnakaram. They are also treated in the Sarangathara Sambita. I follow these in my practice,- I have very good resalts.

If the Siddha system is one as recorded in Rass Tantram, I do admit that they will be beneficial. I have not read any of the Tamil Siddha works.

By the Secretary : If it is known that in the anoient Tamil Siddha worke, there is locked up n good deal of a oseful knowledge of Iatro-chemistry, there will not be any objeation to any soientific man incorporating it into his own system of medicine.

If it is a fact that there is suoh valuable knowledge of Tatro-obemistry in the anoient Tamif Siddhe works, then I agree that translating them into English would be of immense value to distingaished researchers like Dr. Ray and through them, to the scientific world generally. No
asane man would ever objeet to any precious knowledge contained in the Siddha system to be incorporated into the soientifio system of any country.

For an Allopathic doctor to safely use indigenous drug-especially certain powerfal ones, it will be necessary he should know the action of drugs in terms of A̧urveda. It is rather dangerous for a western-trained dootor to make use of a Dravya without any knowledge of its Rasa, Vcerya and Vipaka. In the oase of ordinary remedies, perhaps, it may be safe; lut if a medioine is at all powerful, it might do harm. Without a knowledge of the doshas, the Allopathis doctor may be at sea, when he takes to the use of our remedies, It is not possible for an Allopathio doctor to treat cases of Gulma, for instance, with our romedies, without knowing its Paihology, etc., according to our Shastras; he will have to be termed a quak if he uses a drag without knowing its effects. Whether in Allopathy or any other system, the use of drugs without knowing its effects will be quaokery. For instanoe, what Grihani is yor cannot desoribe in English. It will be dangerous to meddle with drage without kno wing their effects.

Replying to Mr. Palmer: Asked about his general mothod of examination and treatment of his the cases, witness stated :-

I will closely observe the symptoms, look to his vitality (Ayus), feel his pulse, examine his urine and do all those things. I will then arrive at a certin conclasion that he is suffering from a certain disease. It may be that the Allopathic doctors also may come to the same conclusion as we do. It may be that what we call by one name, they may oall the same by any other name. Still he may be lended in difficalties if he uses our remedies without a knowledge of our Shastras regarding diet, anupanams, and many oiher things like these. We administer only such medicines as are oonducive to the temperament and vitality of the patient, and as the Allopathio man is not oonversant with the indigenous system of treatment he may be landed in difficulties. I am of course, speaking with reference to Thridosha theory. I do not deny that Allopathio doctors ean understand the Doshas if they try; but they must first try and learn the thing.

My opinion is that for the use of our medicines, the Allopathic doctor must follow our course of treatment and must be conversant with the theories of the Ayarvedio ayatem. It may be very dangerous for an Allopathio doctor to meddlo with o ur medicines. For instance, you take Neyrvalam; it is given for purging; for suppressing purging you have to adminiater an antidote. There are so many methods desoribed in our Sastras. If the Allopathic practitioner is not conversant with those methods, he will be landed in difficulty. To the extent he is converant with them, to that extent he may make use of our remedies, without danger to his patients.

By the Secretary: If an Allopathic dootor undertakes treatment without a proper knowledge of the 14 oategories like Dosha, Dushya, Bala, Prakriti, ete., then, he will be in the same position as an Ayurvedic doctor indulging in western method of treatment merely bscause he has learned from some person how to put the needle under the skin or into a vien. I will call him a quaok.

By Doctor Lakshmipathi.-Asked whether a qualified Allopathio doctor may'not safoly use Ayorvedio medioines if full instructions are given with the medicin3, the witness stated :-

For that matter, any intelligent layman can use like that. Why should there be a. doctor?

Asked further whether it is not more easy for a qualified Allopathic dootor to ase them than for laymen, witness stated:-

Yes, if Veerya and Vipaka is understood, but thon, he will himself be something of an Ayarvedic dootor.

The witness then retired.
Mr. R. M. K. Veluswami Pillai was then called and examined, when he deposed thus:
Replying to the Chaiman: I appear as representative of the Tamil Sangam, Koilpatti. I praotice in Washermenpet. I am treating all medical cases. I follow the Siddha system of medioine. I do not use any English medicine. As for Surgery, we have got some preparations which we apply externally. There are rery few who know such things. My opinion is that the Englist system mast be combinod with the I'amil system. I know nothing about medical regietration.

Replying to Mr. Palmer: Between powdered ginger and decoction of ginger, the decootion is more easily assimilable. The active prinoiple of ginger asts batter than powdered Choornam.

Replyong to Mr. Arumugam Pillai : I oan prepare all Siddha medioines. I ean prepare Guru or Muppu. I have done that and other thinga. I know the reoeipe for Rasa galikai. I can solidify rasam, gandam and pashanam without any smoke in the prosess. I have treated leprosy, syphilis, oonsumption and other oases given up as hopeless. I treat the absoess inside
the body by means of ealt and dravagans. I treat abecesecs aceording to the temperament of the body. It is only those foolish people who do not know anything about it that fail. It is only on account of those quacks that Tamil medicion has suffered in repotation. If there is a sohool for teaching such things it will be beneficial. The examination of Nedees is necessary. Without them you asonot diagnose diseases.

Replying to Dr. Lakshmipathi: I knsw that green ginger and dry gingor may produce different results. So also, the properties of extractions may rary in different prepurationa.

Replying to Dr. Subrahmanya Ayyar: There are very many ways of solidifying meroary. Of course, there are many pretenders, I am deepl $j$ sorry for them.

I solidify mercury by means of Mappu. Only those who know how to treat the metals oan anderstand the properties of Muppo.

Meroury oan be solidified by means of herbs only ; but it is a diffioult oourse. If only one wears the Rasa gnlitai he oan even defy death. It in not only a panacoe but it is also n charm. The virtoes of this gulikai are numberless. For example if you put it by the trunk of the coooanut tree, the tree will not yield toddy. If you place it on the back of a cow, it will not give milk, and so on and so forth.

I know how to prepare Rasamani. I have also advertised it in the ' Swadesa witrian '
I can produco the Rasamani in a month.
These things about Rasamani are no exaggeration. Thongh they are not as atated in the books, still Rasamani has got its own value.

Mr. N. Vesraraghavaperumal was next called: He stated in his evidenoe that he had oured many fleshy growthe in the moath, ear and nose, without any aurgical operation. He added that he was in entire agreement with the views offered bs the previous witness

The witness then retired.
Mr. Shanmugananaasvami: Who also appeared as a witness withdrew on his being asked to offer his apecial views in the form of a written statement to whioh he agreed.

Mr. Krishna Rao who had given his evidence, was recalled and examined when be deposed thus:

Replying to Dr. Nubramanya Ayyar: I adopt tbe Siddha system more than Aynrveda. There are nany things eaid about Muppa, bat there are very few who understand its preparation. I doubt whethor there is even one who can prepare it. Muppa as its name implies in three galts combined together. But the Shastras say it is one thing. Just as Parabrahmam is diversified into Brahma, Viahnu and Siva, so also is Muppu. But opinions diffor. If Muppu can be made, then yon can solidify Mercury. My opinion is no one ie now known oapable of preparing Mappu.

Rasabhasmanc is done by many people in many ways. If mercary oan be solidified then it is talisman. But no one can do it properly. Only one of the 18 Biddhars oan do it, that is my firm belief. Panchakarma is in practice but there are very few Tamil hooks that treat about it.

Jeevarakshamritam is a book which treate about the nature of diseases. It is a combination of both the Tamil and Sanskrit murais. Mr. Subramauia Pandithar is its aathor. My opinion is that Agastiar the founder of medicine is the same sage that is mentioned in Ramayana.

Replying to Mr. Arumugham Pillai : I think that nadi is important in Siddha Vaidya. But without Asbtanga Paribsila it onnnot be of any use. Nadi examination is diffioult by itself. It will be useful only if we know all the other things.

Replying ts Dr. Lahashmipathi: On the subject of treatment, we have two divisions oalied Swasthavriththa and Achoravriththa. In swasthavriththa we have got rules luid down regarding diet, exercise, cleanliness of body and mind, exercise and other thinge. Bome of thene are treated with special importance and we call them Vrathams. We have every principle of hygiene embedded in our Shastras. It is because of the proper observanoe thase rales by the higher classes that they are generally less liable to attacks from infections of diesases.

Replying to the Secretary: Drugs act according to their Rasa, Virya, Vipaka, and Dravya. Dravsa refers to the physical and ohemical propertiea including the active ingredient in the drag. It is the resultant of the five elements (Panzbabhatas). Bat the elemente do not exist in the same propurtion in the varicus substances. Agni may predominate in one, ap in another and so on and so forth.

By virtue of its rasam and active principle, kadakkai is calculated to produce constipation ; but in virtue of its prabhavam, it will purge.

The Vipaka of a drug may be different, according as it is given as an extract by hypodermic injection or through the moath. Some drugs, if they are to act satisfactorily, will have to be given only through the mouth and some in other ways.

If we extract merely what you call the active principle of a drug, that may be of no use for our propose ; its Veeryam may not be there. Moreover, the action of the active principle, and the whole drug may be different.

Replying to Mr. Palmer: All medicines inoluding Muppu can be prepared, but no one doctor is skilfal enough to prepare all the medicines. Muppu is not at all olassified as medioine. It is only a catalytio agent.

Replying to Mr. Natesa Sastri's question: "Can you impress modern machinery into the service of Ayurveda for the preparation of choornams." The witness stated:-My fear is that much harm may result, by impressing modern machinery for preparing Choornams, Lahyams, eto.; for, in the preparation of the medicines, there is a time-limit to be observed and a partioular kind of fuel has to be used for heating it, the nature of the receptacle also ia specified in some cases; and unless we conform to all these things we cannot prepare anything like effective medicines. Different kinds of heating processes are mentioned in the books, such as Komalagni, Kalagni, etc. Again, if we use a glass retort for receptacle and heat the drugs either with a spirit lamp or by means of electricity, we would be going against the methods prescribed in the Shastras and we cannot be sure of our results; on the contrary it may be productive of great harm.

Beplying to Mr. T. R. Ramachandra Ayyar: I know instances where Allopathic doctors having learnt the Ayurvedic system, have proved to be very successful practitioners; the late Dr. Nanjunda Rao is one instance. He used Ayurvedio medioines to a large extent in his practice. I myself assipted him in the preparation of some of the Ayurvedic medioines.

Replying to the Chairman: I praotice both Ayarveda and Siddha; but, the Biddha aystem forms the major portion in my practice: I stadied the Siddha syatpm under a Yogio

When I came to Madras, seven or eight yeare ago I began the stady of Ayorvedic system with the help of Mr. Natesa Sastri (one of the Committee members).

There is no hostility between the two syatems, and they are both based on the same principle.

Dr. Nanjunda Rao was using indigenous medicines fairly extensively. I have not studied the Unani system.

Replying to Mr. Arumugham Pillai: I agree that the carative powers of the Senthooram of mercury, sulphur, etc., will be greater if they are prepared according to the elaborate processes mentioned in Siddha books than if they are prepared by the comparatively easy methods followed by the ordinary practitioner.

The Committee adjourned at 5 p.m. to meet again next day at 12 noon.

The Commithe re-assembled at the Commitiee room at 12 noon on 30it Seplember 192: when the following members were present:-
(1) Khan Bahador Muenmad Usman Sabis Bafader (Chairman).
(2) M.R.Ry. Rao Babadur A. 8. Keisema Rau Paxtulu Gara.
(3) Dr. A. Lakshmipateix.
(4) , M. Subramantya Aytar.
(5) M.R.Ry. K. G. Natean Sagtriyar Avargal.
(6) ", C. T. Aremperan Pillai Avargal.
(7) Mr. A. T. Palmek.
(8) Dr. G. Sminitaba hurti.

Mr. S. R. P. Das was called and oxamined. He deposed as follows:--I oome front Vellore I practise Ayarveda asstem. I undertake the treatment of all kinds of diearass. I studime this soienoe by myself and not under any dootor for twonty rears. I also use Englint medicines suoh as potas iodide, colchicom, etc. For Malaria, I do not use quinine, bcrauns it canses deafness. I know the Thridosha theory. We are belpless in the matter of Surgery. It is a very difficalt sabject. It requirea a knowledge of Physiollogy nad Anatomy. If there is any hody to teach us we will learn it. At present we treat buboes We have got some medicines which, if applied externally will heal buboee, tto. Bat they will take some time to heal. In my experience if you want speedy reoovery in such cases you muat have recourse to Surgery. I have heen praotising medicine for the last fifteen yearr. I lave been fairly ancoessful. The cost of medicines of our system is only one-Gifth of the cerst of English medicines.

I am for medical registration of indigenous practitioners.
Questioned by Mr. Palmer the witness stated: Without a knowledge of Tbridoshas I oannot practise. It will take four or five years to master our syatem. I oannot nay how many books I have stndied. Whenever a book is published on the subject we read it. There is nothing like a standard book in medicine. I have not apecialized in any disease. In the English system also, there are good dootors. I was here ycsterday. If you take kadukka in large quantities it will produce purging and vomitting.

Replying to Mr. Krishna Rao, the witness stated : I oannot refer to any partioular standard book in medicine that I have studied. But I can mention the following books which I have read:-

Sarangadhara Sambita. Ashtanga Hridaya.

Husband's praotioe of medicine. Moore's family medioine.
The English books have nothing to do with the Ayurvedio medicines. I read them only to make a comparative study and to find ont some useful things. There are several book a whioh are kept seoret. They are written on palmyra leaves. For a proper dissemination of tnowledge it is necessary that these should be published. There must be medical registration, but you must not prevent any one from practising medicine. All the people now practising should, as a rule, be registered, and certain qualifications mas be fixed for futare practitioners.
M.R.Ry. Dandit M. Duraisuami Ayyangar was the next witnees examined by the Committee. In reply to the Chairman the witness deposed as follows: I am practising in Madras. I am an Ayurvedic physician. I am senior physician in charge of the Kannikaparameswari Ayurvedio Dispensary. I was connected with the Madras Ayurvedio Colloge five or six years back. I treat all kinds of enrable disesase in my diapeneary, I mean Sathwarogas. If a new disease appears, there is a principle in Asarypda known as Thridosha theory acoording to which we begin our treatment. Whether that disease already exists or not, we are not concerned with it. All olasees of people cowe to our dispensary for treatment. Referring to a statement relating io the working of Chengalva Nayakar's Dispensary, Vepcry, connected with the Pachiappa's Charities, tho witress stated: It is an Aynrvedio Dispensary managed by two qualified Ayurvedic doctors. Both of them were trained under me. All clasees of people Hindus, Muhammadans, Europeana, come there. (Here, the witness read out fiom the statement the attendance of patients during the month of July 19:1 and Febraary 1922). He continued: The cost of treatment por head comes to not more than nine pies, including etaff. Ayurvedic treatment is cheaper than any other kind of treatment. Christians, Eurasians and Europeans have no objection to undergo our treatment. They come to us because they think that our treatment is efficacious. We do not nse English medicines in our dispensary. We do not use quinine. We do minor surgery in our dispensary. I learnt minor Surgery in my student dajs from Dr. Venngopal Naynda. I stadied Physiology and Anatcmy too. As an Ayorvedic student I did not feel any difficulty in mastering the oubject. Piles and fistola and suoh other cases are treated by us by means of medicines in our hospitals, althongh they are generally treated by surgery by other aystems. Sanskrit was the medium of instruction in my
student days except for physiology and anatomy whioh were taught in Telaga or Tamil. It is possible to teroin the other sabjects also in Tamil and Teluga. In the atudy of anatomy and physiology, it would be useful to an Ayurredio doctor to have a knowledge of English.

I am for medioal registration For the time being, all the medioal practitioners should be registered and in fature only diploma-holders should be registered. The registration b bard should oonsist exolusively of indigenous praotitioners. It should not be under the SurgeonGeneral. For, the Government oannot at present have an Ayurvedic man as the SurgeonGeneral. It is impossible for the present Saryeon-General to control our institations. He will not take sofficient interest in them. I think he will starve these institutions.

To Mr. Palmer, the wilness replied: There are many diseases whioh are ourable under ordinary conditions and there are some which become inourable after a certain stage, suoh asSnnnipathajwaram, Vishuchi, Kushtam, Consamption, and so on. If the Ayurvedio system is taught well, we can aafely bid good-bye to the Allopathio system. I prepare my own medioines. exactlyas prescribed in books. I lay great stress on pathyam. This code of pathyam is, in some cases, extremely difficult to follow. Apathijam sometimes rosults in serious oonsequenoes.

Questioned by Urr. Krishna Rao, the witness replied : It is necessary that some qualifioation should be prescribed for medical registration ; but at present, the well-known indigenous praotitioners cannot be restricted, becanse-they are doing immense good to the oountry. On account of their usefulnees to the country and their knowledge of medicines, the well-known practitioners. should not be restricted. The Board should sahjeet them to an examination or it will also doif they are able to get oertifioates from respeotable men. People in the visinity of my dispensary as well as from distant places vome to my dispensary for treatment. If the number of dispensaries is increased, the number of patients attending allopathio dispensaries will be reduced. In my dispensary there are three doctors and the establishment oharges come to Rs. 250 a month. There are two compounders and throe menial servants. A pound of Sudarsaas. Charnam oosts here Re. 1 or $1-4$-0. If you are to get the same from foreign countries it will oost Rs. 4. The standard work on surgery is Sustutha Samhita. It is not translated into. vernaculars of this Presidenoy. There are several valuable books on medicine which are not priated and priblished. For a proper disseuxiation of knowledge in medioine these hava to be: pablished. There are still several books written on palmyra leaves.

Asked by Mr. Natesa Sastriyar the witness deposed as follows: Certain diseases beoomeinourable only after a oertain stage. They are not inourable by their very natare. There will be no trouble by -getting certifioates fromi respectable people. They oan be got either from Collectors or Tabsildars or any other respectable men. There is no suoh system as Siddha. syotem. It is a new name.

To Mr. Arumugam Pillai the witness asid: My Acharya is Pandit Gopalaoharlu. I remember that he has asid something about Siddah Vydya. (Here the member Mr. Aramagham Pillai read an extraot from a book in Tamil). The witness agreed that he had said something about Siddha Vydiam in a book of the 13th century Sarangadhara Samhita publighed by him. In Agasthya Vaidyam, something is said about Nadijnanam.

Replying to Dr. Lakshmipathi, the witness stated : All medical practitioners should not be registered. In registering the practitioners, ceare has to be taken to see whether they have sufficient knowledge of Ayurveda or not. It would be usefal if there is one physioian at least. in esch village. All practitioners who are now praotising follow both the systems. A dootor must be both a philosopler and a physioian so that he might treat both the mind and the body. I know that paraohories have some physicians of their own. It is neoessary that the Ayurvedio praotitioners should have some knowledge of Ayurveda, othorwise a body of medical practitioners. whioh contains in its fold all classes of men without any knowledge of the Sastras will be ereated which will not command the respeat of the public or medical practitionerd of othersystems. I don't think I could usefully serve on a Board consisting of men who have not got safficient knowledge to treat diseases. I would not recommend that this kind of men should beregiatered, the danger being that respectable practitionors would not eome forward to register: themselves. I think that great care ehould be taken from the commenoement in the seleotion of Ayurvedio practitioners. When there are two medical registers kept in the country, the Ayurvedio practitioners oan consult the Allopathic practitioners and vice verca. I am not. afraid of any injustioe being done in medical registration. I am nanablo to anewert the question as to whether in oase of injastioe an appeal should lie to the High Conct or to the Revenue anthoritios.

In reply to the Secretary the witness said: The first thing that we do when a case comes tous is not merely to examine the disease but also the patient as well. Before beginning treatment of the disease we have to consider the oase in the light of the following ten prinoiples:-

Deha, Dosha, Bala, Kala, Anala, Prakrithi, Sathww, Ssthwa, eto. It is more or lose impossible to correotly diagnose the disense without a knowledge of the Thridoshas. It is dangerons to treat cases by Ayarvedio methods without a knowledge of the Ayurvedio prinoiples. He would be a quack who undertakes treabment of a disease without a 118
ecientifio knowledge of the syotem. It is just like one atternpting to cure diseace by Wertern medical methods with jast come knowledge of the materin medice of the Allopathic system. In a drag like opium there are what are called active principlea by which it aota There is also its Veerys whioh it is necessary for us to know if wo are to nee it cafely. Our medicines have to be ptandardized for aotive prinoiples, Vearya, eta I am not talking about medioines which are advertised in the papery but of Sbastraio modicines. Druge have the following qualities :-Dravya, Gunn, Rasa, Veerya, Vipaka and Prabhara. Dray yam is the basia for the action of the drugg. It is necesuary to know the active ingrediente of eaoh drug before we apply it. Wher the active ingredients of a drag are taken put, its notion will be difforent. It will be sufficient if the aotive ingredients of a drag are taken and injected to got the required relief. Our standardization of medicines is done according to the lhan Sastra. Standardization of medicives according to the Western aystem will not be quite antiofnotory to ne.

It is true that in the Allopathic aystem there are eminent medical pratitioners who have made many discoveries and who have been registered along with the bunbloat of madicsl practitioners. It is also true that they do not consider it below their dignity to be olasead with the hamblest practitioners. I have alroady stated that the Siddha as stem is not a new asatem. It is only a new name. I don't believe that the Tamil works lay mach atrese on Rasayana tantram and Nadi sastram. It would be very neeful if a research soholar is proficient in Banskrit. A knowledge of English also is essential because it would keep the dootors in touoh with the outside world. It is my opinion that the Weatern doctors are not in touch with our ars asem. It ois desirable that they should know it. Professora teaohing Medioine shonld have a knowlodge of English; it is a very desirable qualifioation.

Questoned by 1/r. Palmer, the witness deposed as follows:-A knowledge of Banekrit and Engliah is not essential for ordinary students. In addition to the diagnosing of the diseases the physioian should know the kalam or the season of the year. Treatment differe acoording to the season and according to the time of the day, i.e., kalam. If kadukkni is analysed in the light of Dravya, Guna, etc., it should act in a way different from that it is actually known to aot, in virtue of Rasa Prabhava. Similarly with regard to oroton or nervalam, the aotion of the seed ia quite different from that of the extract.

To Mr. Natesa Sastriar the witness replied: There is difference between Dravya and Prabhava. More sohools are necessary for spreading a knowledge of Ayarveda.

The next witness examined was Mr. Devasahayam Pillui.
Questioned by the Chairnan, the witness replied as follows: I am a Massear. 1 practise in Madras. I can oure fraotures and rheumatism by means of massaging I learnt this art from my ancestors. It-was written on palmyra leaves. They ure now lost. Inow do it from experienoe.

Questioned by Mr. Palmer, the witness doposed as follows :-I can oure aonte paralyois, rheumatiem, conetipation, indigestion. For urinary troablea, I masage near kidneys. I also use herbs and plants. I heal fractures by bandages. I oan cure fever by means of herbs. I am a apecialist in masaaging.

Jo Dr. Lakshmipathi, the witness said: I have treated a namber of cases reoommended by you, particularly that of an old lady in Nungambakam, who was saffering from severe pain in all joints. I used the medioine given hy you and masraged. I treat Sthulathvam. The weight of the body will get lese without the body being weakened.

To Mr. Arumugam Pillai the witness said : I found the principles of this treatment in Tamil book " Varma asastra" by Agasthyar.

The next witness examined was Panait O. Ohakravarthy.
The witness handed over to the Chairman a certifioate granted to the wittness by Sir P. Tyagaraya Chettiyar.
.To the Chairman the witness esid : I learnt the art of treating boile and othor surgioal ailments from my ancestors. I am not in such a high position to enable me to publish to the world the books from which I have learnt.

Asked by the Chairman if the witness would be prepared to pablish these books if the Government granted him a sum of money, the witness said, "Yes, I am ready."

Questioned by Mr. Palmer the witness replied: I do not use any instramente. I use only medicines. It am a specialist in treating carbuncles, boils, etc. I treat only external oase. it will take one month for a carbunole to heal. I do not administer oodliver oil. The abscesses that I treated were very deep.

In reply to Dr. Subramanya Ayyar the witness stated : I cannot care hydrocele and herniao

## The nest witness examined was Mr. Kamakshi Prasad Sarma.

Questioned by the Chairman the witness deposed ns follows: I came from Berhampur. I practise Ayurredio system. I have been practising for the laet threo years. I atudied in the Calcatta Medical College I had four years' training. I learnt minor surgery also. I leaint mediciue in Sanasrit and Bengali. I hold a diploma from that college. I have my own dispensary. I undertake treatment of all diseases. I have not heard of the Bidha system,

I do not uese English medicineer. I do not use quinine. Indigenous medioines are muoh cheaper than English medicines. My grandfather was a doctor. I am not a speoialist in any disease. I have a slight knowledge of English. Medioal registration appears to me to be necessary. The registration board would work well if it is composed mainly of Ayorvedio praotitioners.

Mr: Palmer next examined the witness: After my four years' atudy, I was under the enpervision of a dootor for one year. If the medioines are not prepared as per the directions given, they will not be effioacious. They lose their efficacy if they are not kept in the required wessels.

To Mr. Natesa Sastri the witness said: The principles of diagnosis and the treatment of disease is the same in both the Indian systems.
$T_{0}$ Mr. Arumugam Pillai, the witness said : Books in ing language can be tranglated to other languages. We practise soience of puisation. There are other methods also of diagnosing disease. Feeling of pulse is ono of tho methods. We do not consider it as very important. If other methods fail, then we take to this method of feeling pulse. There is a separate book dealing with examination of pulse, for instance, Nadithathva, eto., in Bengali.

To Dr. Lakshmipathi the witness replied as follows: I know both Sanskrit and Bengali. My vernacular is Oriya. There is provision in our sohool to teaoh students in Bengail. There are a good many students there, who stady Ayurveda in Bengali. They also know English. There are books on the suhject both in Euglish and in Bengali. It is possible to atudy Ayarveda through vernacolars alone. There are a good many books written in Oriya but not published. I think it neeessary to publish them; otherwise the knowledge will be lost.

To the Secretary the witness replied: In Bengal, all students know both Bengali and Sanakrit. Sanskrit is a compulsory subjeot there. So one who knows Bengali should also know Sanskrit. Those who do not know Sanskrit, for example, those who go there from Southern India, have to learn Hindi. I studied in Dr. Yamuni Bhushana Roy's Oollege when it was first copstituted. Dr. Yamuni Bhushana Roy is the Vioe-Prinoipal. The professors there are all Ayurvedio doctors. Dr. Mullick is an Allopathio dootor. Many big people, highly eduoated people, Rajahs and many Europeans go to our dispensary. The professors there enjoy the confidence of eminent people. There are no Sanskrit books dealing with Moderu Physios, Chemistry, etc. But there are Bengali books dealing with these subjects. I studied Charaka complotely.

The next witness examined was Kaviraj Baishnavo Thripathi Sarma:
Examined by the Chavrman, the ucitness replied asfollows: I practise in Rerhampar. I praotise both Ayurveda and Siddha systems. I studied Ayurvedic system in Puri College. Those dootors who practise Mantric treatment are called Siddha Vaidyas. There are four methods of treatment: Rass or daiva vaidyam, treatment by vegetable drugs or Manishika vaidyam, Surgery or Asura vaidyam, and Siddha or Mantrika vaidyam. During the opidemic of cholera in cianjam, I was entrusted by the District hored of Ganjām with 150 cases of cholera and I was sucoessful in 120 oases. For oholera I adopt the treatment given in Ayarvedio books. I nse the cholera pills. (The witness took objection for giving out the ingredients of these pills). The composition of the pills is found in Ayurvedio Sangraham and one can refer to the book. I am for medical registration.

Questioned by Mr. Palmer, the witness said : I cannot consult auspicious hours always• I consult auspioious hours for preparing medioines.

Questioned by Mr. A. S. Krishna Rao, the witness said : It was in the year 1920 that there was chnlera in Ganjăm. There was then also a oholera party there. It is a faot that people did not go to the cholera party for treatment but theg came to me for treatment. I was also paid some travelling allowanoe by the distriot board. I maintain an Ayurvedic diapensary of my own. I have got two more dootors to assist me. They are also trained under me. The cost of maintaining my dispensary comes to Rs. 40 or 56 per month. I prepare the medioines. myself.

Examined by Mr. Natesa Sastri, the witness said: I studied Oharaka and Sushruta Samhita. There is not muoh abont pulse in these books. The latter deals completely with :argery.

Questioned by Dr. Subrahmanier, the witness said : Those who come to my dispensary before $\boldsymbol{9}$ in the morning are treated free. Four or five patients are thus treated free every day.

Questioned by Mr. Armugrm Pillai, the witness said: It is not possible to bring the Eastern and Western treatments together. There is no method by whioh they oan be combined. I have answered this point in reply to question 5 in the written answers.

- Examined by Dr. Lakshmipathi, the witinees said: I have got many certifioates from Rajas Mabarajahs, Distriot Board Presidents, eto. Distriot Boards and Taluk Boards are not paying me regalarly any bonus. I am prepared to reoeive some honorarium and run a free dispenaary in the plave in whioh I now practise. It is oheap to do so.

To the Secretary, the witness said : 1 studied Laghukaumudi, Raghuvameam, Kumarasambhavam for learning Sanskrit. I agree that knowledge of Nyaya is very desirable for stadents of Ayurveda. I amaware that Atomio theory is dealt with in Nyaya and Viseebika Darshanas.

Even in Ayarvedio shactras this theory is briefly stated. Oar theory is that the whole boity is composed of panchabhutae. Without a knowledge of the orolation of the penchalinatas, the erolation of the homan body cannot be anderstood. This subject is troatell in susrutha. Theme books thke for granted a previons knowledge of Sankhya aud Nyaya-Vaisenhiba. To be a coientific Ayarvedic doctor, one must bave some knowlelgo of all these darahava I do not deal with aurgical cases. I agree that, to the extent that my eystem doee not doal with the uorgical cases, to that extent it is defioient. Ayurveds has eight branches and surgery ia one of them, though it is not practised now. If it is studied it onn also be practised. There are guras who can teach us the art of aurgery, for instance, Blantacharys. . Till we are perfect in this, Western aystem of surgery may be continuod. To leara the Art, exporimenta oun be made on dead bodies.

At the close of evidence of this witness, the Committee concluded examination of witnesese,
The Chairman then thanked all those gentlemen who co-operated in the proceedings of the Committee.

# REPORT <br> OF THE <br> 3 <br> <br> CITY HIGH MORTALITY C0MIMITTEE 

 <br> <br> CITY HIGH MORTALITY C0MIMITTEE}

## PARTI



MADRAS
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# REPORT OF THE CITY HIGH MORTALITY COMMITTEE. 

## PART I. <br> INTRODUCTION.

The Government in G.O. No. 1219 P.H., dated 20th July 1926, constituted the Committee with the following gentlemen as members :-
(1) The Director of Public Health, Chairman.
(2) Major H. H. King, I.M.S., Director of the King Institute, Guindy.
(3) M.R.Ry. S. Venkatachalam Chetti Avargal, m.L.C., President, Corporation of Madras.
(4) M.R.Ry. Diwan Bahadur O. Tanikachalam Chettiyar Avargal, m.L.C., Ex-President, Corporation of Madras.

In G.O. Mis. No. 800, L. and M., dated 1st March 1927, the Government appointed Diwan Bahadur G. Narayanaswami Chettiyar Avargal, President of the Corporation, as an additional member.

The Committee met for the first time on 31st July 1926 in order to decide as to the methods to be adopted in obtaining the necessary information, and it was left to the Chairman and Major King to prepare the statistical tables required. A number of out-door inspections were also made, and the Committee later met on a number of occasions to discuss the preliminary and final drafts.

The terms of reference to the Committee were-
(1) to enquire into the health of the city ;
(2) to ascertain as far as possible the causes for the high mortality. in the city ; and
(3) to suggest measures to effect improvement in the health conditions.

In order to comply with the first two references made to the Committee, it was necessary in the first place to collect mortality statistics for the city over a fairly long period of years.
2., The figures from 1910 onwards were considered sufficient for our purpose, but it was necessary to arrange these statistics in a number of different ways, in order to illustrate, as far as possible, the varying effects of locality, age, disease, etc., on mortality. The preparation of the necessary tables was originally undertaken by the Corporation Health Department, but in October 1926 the President of the Corporation informed us that this was no longer possible, and the work was subsequently taken up by the Director of Public Health's office. The tables required careful and laborious preparation, and, as no additional staff was sanctioned, delay was inevitable.
3. The unusually high figures for the two influenza years 1918 and 1919 have been exciuded from consideration, this being in accordance with statistical practice in England and elsewhere.
4. One of the first difficulties we met with arose from the fact that, in the middle of 1919, the number of divisions or wards in the city was. increased from 20 to 30 , whilst no exact relationship existed between the boundaries of the old wards and those of the new. Many of the tables, therefore, had to be prepared in two parts, the first dealing with the period 1910-17 for 20 divisions, and the second dealing with years 1920-26 for 30 divisions. In drawing conclusions from these two sets of tables, we have used the old division numbers when referring to different areas, as these were found to be more convenient for the purpose in view. The two maps (maps I and II) attached show the old and new divisional boundaries.
5. The first part of the report is confined to analysis of the atatistical tables and the conclusions drawn from that analysis. Only after this part of the report was more or less completed were we in a position to move further. We have inspected a number of the areas which, from the Health Officer's reports and from our own examination of the mortality statistics, seemed to demand special attention.
6. The second part of the report includes our observations and recommendations. Brief summaries of the two parts have been appended for easy reference, and the graphs and maps referred to in Part I are included in a separate volume as an appendix.

## METEOROLOGICAL CONDITIONS.

7. The accompanying graph (graph I) shows the seasonal incidence of rainfall, temperature and humidity for Madras City averaged over the period $1910-25$. This graph is inserted in order that it may be compared with the seasonal incidence of disease.

## POPULATION AND AGE DISTRIBUTION IN MADRAS CITY.

8. In order to throw light on the influence, if any, which "age distribution " may have on the mortality of Madras, we have taken as the standard for comparison the age distribution of the population in the Madras Presidency as given in the Census Report for 1921. The following table gives comparative figures expressed in rates per 1,000 of the population:-

| Age group. |  |  |  |  |  | Madras Presidency. | Madras City. | Difference between (3) and (2). |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{rr} 0-5 & \cdots \\ 5-10 & \cdots \\ 10-15 & \cdots \\ 15-20 & \cdots \\ 20-40 & \cdots \\ 40-60 & \cdots \\ 60 \text { and over } \end{array}$ | \#.$\ldots$$\ldots$$\ldots$$\ldots$$\ldots$ |  | $\ldots$$\ldots$$\ldots$$\ldots$$\ldots$$\ldots$ |  |  | 122.9 | 99.5 | -23.4 |
|  |  |  |  |  |  | $135 \cdot 3$ | $106 \cdot 4$ | - 28.9 |
|  |  |  |  |  |  | $119 \cdot 2$ | 96.5 | -23.7 |
|  |  |  |  |  |  | $82 \cdot 3$ | 93.4 | +111 |
|  |  |  |  |  |  | 312.7 | $381 \times 2$ | +68.5 |
|  |  |  |  |  |  | 1673 | $177 \cdot 4$ | $+101$ |
|  |  |  |  |  |  | $60 \cdot 3$ | 45.6 | -14.7 |
|  |  |  |  |  |  | 1,000.0 | 1,000* |  |

It is obvious that, as compared with the Presidency, Madras City has an excess of young adults between the ages of 15 and 40 years, the greatest part of this excess being in the age group 20-40 years. The differences in the age distribution indicate that considerable numbers of young adults migrate into the City, and this is borne out by the following table which gives the population of Madras by age groups for the 1911 and 1921 censuses :-

POPULATION BY AGE GROUPS.


From this table we see: that the bull of the increase in population between 1911, and 1921 has occurred in the age groups $20-40$, so that there can be little doubt that migration of young adults has been chiefly responsible for the growth of the population as a whole. We must conclude that the corrected death-rates for young infants and of persons .over 50 would be higher than the crude rates given in the City Health Reports.

9, Other things being equal, therefore, the age distribution of the city population favours a low mortality-rate, becaise the death-rates of the age groups 20-40 are always much the lowest in any given population. On the other hand, the annual death-rates in the City have been constantly very high, and show, if anything, a tendency to increase.
10. Comparing Madras with Calcutta and Bombay, a point worth mentioning is that in Madras the numbers of adult males do not preponderate over adult females to anything like the extent found in the other two cities, although the figures for the last three censuses show that in Madras the proportion of females to males in these age groups is steadily falling, as might be expected with the development of industrial conditions that has occurred during the last 20-30 years. When, as apparently has been the custom in Madras, the young adult immigrant brings his wife with him, the Madras birth-rate must be higher than in these other cities. The proportion of infants in the population of Madras is higher than in Calcutta or Bombay ; whilst the infantile mortality-rate in' Madras City is less than that of Bombay and almost the same as that of Calcutta. It follows that the proportion of infants in the figures for total mortality would be expected to be higher in Madras than in these other cities, and this is the case. We conclude, therefore, that the total death-rates in Madras are made up of infantile deaths to a greater extent than in Bombay and Calcutta. This does not affect the conclusions we have already arrived at but only shows the co-existence of insanitary conditions affecting infants in all three cities.

## DEATH-RATES FOR THE DIFFERENT RACES IN THE CITY FOR THE YEARS FROM 1914-26.

11. The following table shows striking differences :-

[^11]The rates for Indian Christians are very similar to those for Anglo. Indians, although on the whole they tend to be slightly higher.

The Hindu community, which is the predominant group, the figures for which control the general death-rate in the City, has recorded deathrates which are almost regularly three times higher than the European rates.

The Muhammadan community, however, has the unenviable record of persistently recording by far the highest death-rates, so that apparently its general standard of hygiene is the lowest in the City.
12. The important individual causes of denth for each community cannot unfortunately be got from the available reports, so that it is not possible to in dicate which diseases are chiefly responsible for these varying rates, but in making any recommendations regarding reduction of mortality in Madras, it is obvious that the Muhammadan part of the population requires special attention.
13. The next table is arranged in the same way as the last.

Death-rates of principal subdivisions of the Hindu community.

|  | Brah. mans. | Chettis. | Vellalas or Mudaliyars. | Balijas or Nsyudus. | $\begin{gathered} \text { Vanniysa } \\ \text { or } \\ \text { Nayakkars. } \end{gathered}$ | Ådi. Dravidan. | Pattana vana. | Yadavaa <br> or Idaiyana. | Viawn Brahman or Kam. malans, |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Population. | 48,000 | 36,332 | 69,617 | 49,835 | 50,056 | 61,668 | 10,456 | 15,269 | 18,806 |
| 1914 ... ... ... | 30.5 | 33.9 | $43 \cdot 8$ | $43 \cdot 1$ | 52.8 | 50.6 | 56.6 | 660 | 41.1 |
| 1915 ... ... ... | 242 | 29.8 | 32.8 | 31.8 | 397 | 38.0 | 48.7 | 86.5 | 40.8 |
| 1916 ... ... ... | $25 \cdot 3$ | 29.4 | $30 \cdot 5$ | 30.0 | $40 \cdot 3$ | $39 \cdot 3$ | 38.6 | $32 \cdot 3$ | 86.5 |
| 1917 ... ... ... | 29.3 | $33 \cdot 1$ | 36.3 | $33 \cdot 5$ | 41.7 | 39.8 | 46.6 | 89.6 | 41.8 |
| 1918 ... ... ... | 45.6 | 44.9 | 54.6 | $54 \cdot 1$ | 75.1 | 72.6 | $72 \cdot 2$ | 644 | 58.8 |
| 1919 ... ... | 38.7 | 54.0 | 44.7 | 442 | 27.5 | 56.7 | 81.7 | 997 | 68.4 |
| 1920 ... ... ... | $32 \cdot 5$ | 28.4 | 35.5 | 35.5 | $43 \cdot 9$ | $41 \cdot 9$ | 63.6 | 98.9 | 88:8 |
| 1921 ... ... ... | $22 \cdot 1$ | 32.7 | 35.8 | $34 \cdot 1$ | 46.6 | 41.3 | 46.5 | 85\%3 | $30 \cdot 8$ |
| 1922 ... ... ... | 27.6 | 39.6 | $39 \cdot 4$ | $33 \cdot 9$ | 53.3 | $48 \cdot 4$ | 39.9 | 441 i | 602 |
| 1923 ... ... ... | 22.6 | 32.8 | $33 \cdot 3$ | $32 \cdot 2$ | 48.1 | 37.6 | 64.0 | 34.7 | 417 |
| 1924 ... ... ... | 240 | $37 \cdot 3$ | 38.0 | 358 | 51.2 | 46.9 | $57 \cdot 4$ | $43 \cdot 09$ | 42.7 |
| 1925 ... | $26 \cdot 3$ | 37.3 | $42 \cdot 7$ | 430 | $49 \cdot 6$ | 51.6 | 44.6 | 49.4. | 490 |
| Average 1914-25 ... | ${ }^{28 \cdot 4}$ | $36 \cdot 1$ | 38.8 | 347 | 49.7 | $47 \cdot 4$ | 51.6 | 46.9 | 48.8 |

The Brahmans have the lowest death-rates, the figures lying midway between those for Europeans and Anglo-Indians.

The Chettis, Mudaliyars and Nayudus all record rates more or less alike: but considerably higher than the Brahmans.

The Nayakkar community come next, and the highest rates of all are to be met with arnong the Adi-Dravidas, the Pattanavans and Idaiyans. In this table, therefore, death-rates increase as one descends the social scale ; but it is to be remembered that the birth-rates follow the same order, and that apart from social and economic conditions, a high birthrate is constantly associated with a high death-rate.
14. The following table usefully indicates where the greatest variations in population have taken place during the inter-census period.


The only areas where the population has constantly increased since 1891 are Divisions X (Perambür) and XI (Purasawalkam), XIV (Kilpauk) and XIX (Royapeta), areas all lying on the outskirts of the old-overcrowded divisions and associated with industrial developments. On the other hand, great decreases have occurred in Divisions VI (Esplanade) and XVII (Chepauk) ; whilst a lesser drop in population is noticed in YIII (Trevelyan Basin), IX (Park Town) and XVIII (Triplicane), these five areas being all included in the crowded parts of the City.
15. The tendency, therefore, has been for the increase of population to take place in the outskirts of the city, but this has not been followed by a fall in mortality, because the movement has been only minor in degree, and, as we show elsewhere, because general conditions are in certain respects less favourable to health in these outlying divisions of the City.
16. The following table gives the crude annual death-rates from 1910-26. Detailed figures are given in table A.

Total deaths from all causes from 1910-26.

| Year. |  |  |  |  |  | Total deaths. |  | Death-rates. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | $\ldots$ | ... | $\ldots$ | ... | ... | 20,312 |  | 385 |
| 1911 | ... | ... | ... | ... | ... | 21,771 |  | $41 \cdot 4$ |
| 1912 | $\cdots$ | $\cdots$ | ... | ... | .. | 20,132 |  | 38.4 |
| 1913 | $\ldots$ | ... | ... | ... | ... | 20,775 |  | $38^{\circ} 6$ |
| 1914 | ... | ... | ... | ... | ... | 24,174 |  | $46^{6}$ |
| 1915 | $\ldots$ | $\cdots$ | ... | $\cdots$ | ... | 18,668 |  | $36^{\circ} 0$ |
| 1916 | ... | ... | ... | ... | $\cdots$ | 17,872 |  | 34.5 |
| 1917 | $\cdots$ | ... | ... | ... | ... | 19,917 |  | 38.4 |
| 1918 | ... | ... | ... | ... | $\cdots$ | 31,262 |  | 603 |
| 1919 | ... | ... | ... | ... | ...- | 27,187- |  | $52 \cdot 4$ |
| 1920 | ... | .i. | ... | ... | ... | 21,418 |  | 41.3 |
| 1921 | ... | ... | $\cdots$. | $\ldots$ | ... | 20,268 | , | 38.5 |
| 1922 | ... | ... | ... | $\ldots$ | ... | 22,475 |  | 427 |
| 1923 | ... | ... | ... | ... | ... | 19,933 |  | 37.9 |
| 1924 | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | ... | 21,960 |  | $41 \cdot 7$ |
| 1925 | .. | $\cdots$ | ... | $\ldots$ | ... | 25,000 |  | 473 |
| 1926 | $\cdots$ | ... | $\cdots$ | ... | . | 23,776 |  | 460 |
| Total, excluding 1918 and 1919 |  |  |  |  | ... | 318, 371 |  | 40.3 |

17. The mean death-rate, excluding the influenza years 1918 and 1919, is $40 \cdot 3$ per 1,000 , the variations lying between $34 \cdot 5$ and $47 \cdot 3$. The highest rates during the 17 -year period were recorded in 1925 and 1926, the one exception being 1914 when a severe cholera epidemic was experienced,

The death-rates for individual divisions show that the first three (Tondiyarpet) divisions persistently recorded the highest rates in the City. This was noticed during the malarial epidemic of 1912-14, and apparently the general health conditions in this area have not improved. Divisions XVIII and XIX have also continued to record generally high rates throughout the period of years under review. These divisions were also badly affected in 1910-14 by malaria. Further, in some parts of the sameareas the population is largely Muhammadans, and, as we have shown, the death-rate for the Muhammadan community is the highest in the City.
18. A few figures for Calcutta and Bombay have been extracted from the Health reports of these cities for purposes of comparison.

| Death-rates for 1,000. |  | Calcutta (1924). | Bombay (1924). | Madres (1925). |
| :---: | :---: | :---: | :---: | :---: |
| From all caures ... ... | ..* | 29.4 | 31.27 | 47.8 |
| From intestinal diseases ... | ... | $4 \cdot 83$ | 802 | 8-10 |
| From respiratory disesseis .......ere.. mo. | $\cdots$ | $9 \cdot 38$ | 12.97 | 121 |
| From all fevers ... ... | ... | 3.6 10.7 | $2 \cdot 55$ | 4.5 |
| From other canses .. ... ..... | ** | $10 \cdot 7$ | 1051 | 210 |
| Percentage of other causes to total deaths. |  | 36.4 | 33.6 | 424 |

19. The total death-rate in Madras is very much higher than that of Bombay or Calcutta although Madras compares favourably with the others as regards conditions of housing and overcrowding.

The intestinal diseases rate is more than twice as high as those in Calcutta and Bombay.

The respiratory diseases rate in Madras is similar to that recorded in the other two Presidency capitals.

The fevers death-rate in the three cities do not show any marked difference.
20. As regards "other causes," it is to be noticed that the Madras rate for this group is nearly twice as high as the corresponding figures for Calcutta and Bombay; and when the rate is given as percontage to total deaths, Madras still gives the higher figure. Registration work in Madras therefore does not differentiate causes of death so well as in the other two cities.
21. Table C, with the accompanying graph II, indicates the seasonal variations of the deaths from all causes. The hot-weather months of April, May, June and July are the healthiest in the year. The August rise in mortality follows the advent of the south-west monsoon rains; but by far the unhealthiest months are December and January following upon the period of the north-east monsoon which is the more important of the two rainy seasons affecting the Madras coast. The two peaks in this curve should be carefully noted as they appear again-in much more marked form-in graph $X$ for "bowel diseases." The indication, therefore, is that the variations in seasonal total mortality are seriously affected by rainfall. This point will, however, be elaborated when we discuss the statistics for bowel diseases which are in the main "waterborne" affections.

## DEATH-RATES IN THE DEFFERENT AGE PERIODS.

22. The death-rates for the different age groups, based on the 1921 census population for those groups, show the usual variations. Detailed figures are given in table B. Although the census figures for the different age groups are to a certain extent unreliable, the general similarity of the rates with those observed in English tables indicates that the error is not large enough to forbid the drawing of conclusions. For instance, there can be no doubt, that the death-rate ( 503 per 1,000) for
infants under one year of age is a real indication of the very bad health conditions in the City.
23. Graphs III and IV, showing the seasonal iucidence of deaths for the age groups "undor one year of age" and "between one and five years, have been prepared for the period under review. The former resembles more or less the curve (graph II) for deaths from." all causes,". and shows both the August and the December and January peaks. •The latter has peculiarities of its own. T The August mortality peak for this group of children is higher than that of the cold-weather months, a variation which exists in no other age-group. The higher mortality in March coincides with the maximum incidence of smallpox (graph XIII), and suggests that in Madras City smallpox takes its heaviest roll from young children, and that protection, of these children , by vaccination is very defective.
24. We have also prepared graphs showing the seasonal incidence of "diarrhœea and dysentery" and "respiratory diseases" for infants under one year of age. The former (graph V) bears some resemblance to that for "total deaths from dysentery and diarrhœa," but the two peaks are not nearly so well marked, as might be expected when one remembers that large numbers of infants are suckled by their mothers and are therefore not ordinarily exposed to these infections. On the other hand, that for respiratory diseases (graph VI) for infants closely resembles the corresponding graph XX for the whole population, the months following the north-east monsoon showing a very high mortality.
25. Infantile death-rates by divisions have also been tabulated for the years 1913-17 and 1920-25 (tables D and E). In the former group the highest mortality was recorded in Tondiyarpet, although the divisions of Georgetown and those in Triplicane and Mylapore record only slightly lower rates. In the latter group the rates for all divisions of Geprgetown are much higher than those in other parts of the City, in some divisions having been over 500 per 1,000 births. The figures for the Tondiyarpet divisions make it evident that conditions of life for infants in this area are still severe, but the rates for Triplicane and Mylapore show a slight reduction. Overcrowding does not therefore entirely explain the high rates in Georgetown, and probably malaria is the additional factor responsible in that area as well as in the divisions of Tondiyarpet.
26. The next table indicates that the totali infantile and child deaths have very considerably increased since the influenza years of 1918 and 1919. These increases cannot be explained by increase in total population, especially as it has already been shown that the increase in population is mainly in the adult age-groups.

|  |  |  | ! |  | Under 1 year. | 1 and under 5 years. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total deaths, 1910-17 | - | ... | .6. | ... | 46,140 | 24,714 |
| A verage pre-influenza years | ... | ... |  | $\cdots$ | 5,768 | 3,089 |
| Total deaths, 1920-25 | ;... | ... |  |  | 36,469 | 21,778 |
| A verage post-influenza years | ... | ... |  | ... | 6,078 | 3,630 |

Everything points therefore to the fact that conditions producing. infant and child mortality in Madras City are gradually becoming worse, and that radical measures are called for.
27. In the age groups $10-15$ years, $15-20$ years and $20-30$ years, no variations of importance are to be noted.
28. In the group 60 years and over, the only two great variations in deaths occur in 1914 and in 1925. The former was probably the result of the cholera epidemic of that year, the latter was probably due to respiratory diseases.

## CHOLERA.

29. The deaths from cholera since 1912, excluding 1918 and 1919, average 304 per annum, whereas the average from 1900-1912 is 726. This figure, however, is reduced to 470 if we exclude the very excep. tional epidemic of 1914. Detailed figures are given in graph VII. In any case, these averages would seem to indicate that the danger of cholera has been considerably reduced by the substitution, in 1912, of the closed conduit for the open channel along which the water from the Rod Hills Tank was formerly brought into the City. At the same time it is to be noted that in no year has the City been entirely free from this disease.

Cholera death-rates have been worked out for each division of the City, but these do not indicate that any particular area is much more liable to infection than another. This is what might be expected with a water-borne disease in a city having a piped water-supply.

## DIARRHGEA AND DYSENTERY.

30. Madras City has always suffered intensely from this group of intestinal diseases, as the figures given from 1910-26 show (graph VIII), the average annual number of deaths being as high as 4,297. The higher figures registered during 1918 and 1919 are doubtless due to wrongly classified deaths from cholera and influenza, both of which were epidemic during those years, but excluding these, the annual figures vary very little, except where cholera epidemics have occurred, as in 1914, when the figures appreciably rise above the mean.
31. It is to be noted that a high proportion of the mortality occurs among infants and young children who are particularly susceptible to these diseases. In order to test the difference effected by the improved protection to the water-supply, the average number of deaths for the periods 1900-11 and 1912-26 have been estimated. For the former period this figure is 3,695 per annum, whilst for the latter period (excluding 1918 and 1919) the average is 4,305 per annum. The opening of the new waterworks has, therefore, had no effect on the incidence of these infections, which are largely water-borne. Indeed, the increased incidence during the latter period will strike even the casual observer. When not water-borne, these infections are partly spread by food or utensils contaminated with excrement, through dust or flies, or by direct contact with soiled hands. The high mortality, from this group of diseases therefore, makes an urgent call for raising the standard of sanitation throughout the City, because, from the figures for this group of diseases alone, it is clear that there has been no real advance in sanitation in the last 20 years.
32. The death-rates for different divisions of the City show striking variations. The divisions of Georgetown (excluding that in which the General Hospital deaths are registered) and the two divisions of Triplicane have death-rates much below the average for the City as a whole. On the other hand, the highest rates are to be found in those areas lying all around the outskirts of the City. This would seem to point to the conclusion that in those areas the piped water-supply is insufficient and is supplemented from filthy tanks and wells. It may also be partly due to poorer housing conditions and a lower economic standard generally. In any case, the figures indicate the need for an extension of the distribution of pure piped water and an increase in the velume supplied.

## ENTERIC FEVER.

33. The figures for this last member of the intestinal diseases group are largely derived from hospitals, but many deaths from the
enteric infections are buried in the general headings "other fevers," or "other causes." The annual figures, however, show that this class of infection exists to a very considerable extent, and is, moreover, on the increase. Not only are these diseases spread by means of water but milk, curd, and other similar foods become readily contaminated under the conditions in which they are prepared and exposed for sale.
34. The maximum seasonal incidence (graph IX) is seen to occur in the month of September br a month later than the dysentery and diarrhoa peak: This is explained by the fact that typhoid infection takes about a month to produce a fatal result.

## INTESTINAL DISEASES.

35. In order to show the total effect of cholera, diarrhea and dysentery and enteric fever on the mortality statistics of the City, we have prepared a graph (graph X) in which all three have been grouped together, under the head of "bowel diseases." The table gives the annual death-rates for the whole group, and shows that it plays a very important part in swelling the mortality rates for the City, the mean death-rate for the 15 -year period being over 8.5 per 1,000 .

Intestinal diseases.


In interpreting the figures for these and other death-rates for specific diseases we must always remember that the deaths recorded from all known causes form only 57 per cent of the total deaths, so that the real percentages of any group must be proportionately increased. Intestinal diseases form 37 per cent of the total differentiated deathsp so that the true death-rate from this intestinal group may be estimated as something between 10 and 15 per 1,000, which forms from 25 to 37.5 per cent of the deaths from all causes.
36. The seasonal incidence of this group also deserves notice (graph X). It is apparent that the incidence of these infections varies very considerably at different seasons of the year. The curve reaches a minimum in the hot-weather months of April, May, June and July. A high peak occurs in August which is carried to September and October as a result of the continuance of cholera epidemics in these months. A sharp fall in November divides this peak from the high incidence in December and January, and thereafter the number of deaths gradually falls again to the hot-weather minimum. These two peaks in the incidence of the intestinal diseases closely follow the rainfalls of the
south-west and north-east monsoons, respectively, and there seems to be little doubt but that they are associated with the heary contamination of water supplies which occurs when the rains wash the surface impurities from the collecting areas into the Red Hills Tank and to an equal extent into the surface wells and tanks used in the outlying parts of the City. Graph XI shows that the organic contents of the Red Hills whter as received at Kilpauk slowly increases from January to May, which is probably due to the concentration of dissolved and suspended matters increasing with the evaporation of water. A sharp rise occurs in August, probably due to the south-west monsoon rains in this and the previous month washing surface impurities into the lake. This is followed by reduction caused by dilution of the water added by the two monsoons. There is probably, too, some association with the seasonal prevalence of flies but more evidence is needed on this point.
37. A seasonal curve for cholera in Chingleput District for the period 1910-25 (graph XII) has been prepared in order to make a comparison between it aud the "bowel diseases" graph for Madras City. The two peaks corresponding to the two monsoons are again obvious, and in our opinion the striking similarity of the two curves shows that the rame causal factors are at work in the two areas.
38. Although we have remarked at some length on the seasonal variations of this group of diseases, it is to be noted that even the lowest and the highest figures are only 13 per cent below and above the annual average. This group of diseases is therefore a very serious cause of mortality throughout the 12 months of the year, and in our opinion impure water and defective sanitation are the main causos.

## SMALLPOX.

39. The opinion has been expressed that smallpox has become endemic in Madras City, and mortality figures for this disease during recent years seem to confirm the remark. Madras has had several epidemics, howevor, during the 16 -year period under review, the worst of these having taken place in 1919,1922 and 1925. These epidemics did not coincide, particularly during the last five years, with smallpox as it existed in rural areas of the Presidency, where the annual numbers of smallpox deaths have steadily and regularly decreased. Graph XIII show the usual seasonal incidence of smallpox, the maximum figures being recorded in March and April. The divisional death-rates for smallpox shows that in the extreme north of the City, smallpox has been particularly severe during the latter half of the period under review. Other divisions do not show any out-of-the-way variation above the mean, with the exception of the Mylapore area round Cutchery Road. The deaths registered for the age groups 1-5 and 5-10 years distinctly show the influence of the five smallpox epidemics which have been experienced in the City during the period under review. Indeed, a large proportion of the smallpox deaths have occurred in these age groups, and the only conclusion we can come to is that vaccination, which is admittedly the best preventive measure, has not been carried out as vigorously as it might. We have compiled a table (table F) showing the numbers of cases successfully vaccinated in Madras City for each year from 1910, and have also plotted these figures in graphical form (graph XIV). It is obvious that since 1910 there has been a gradual but marked decline in vaccination work, the figures for 1920 being little more than one-third of those for 1910.
40. In the Annual Vaccination Roport for 1925-26 also Madras is only 46th in the list of the 81 municipalities in the Presidency arranged in order of degree of protection of the population by vaccination. The City is, also, far below the average for mufassal municipalities, in spite of a'medically qualified vaccination staff:


The varying percentages indicate that while vaccination is nominally compulsory in Madras City, the extent to which protection is effected seems to depend largely on the willingness of the population to seek that protection, and not on the efforts of the vaccination staff. We considen that, with more energy and additional supervision, the percentages in the first three groups might easily be very considerably increased.
42. The fact that, during 1924 and 1925, the cost per successful case was as high as Re. 1-0-6 and Re. 0-14-il, respectively, also shows that the members of the vaccination staff are not giving value for the money expended on them, especially when it is remembered that the corresponding figures for rural areas in the Presidency during 1925 was only 6 annas per case.

## MEASLES.

43. Although the mean for measles deaths is slightly less than 100 per annum, it is of interest to note that the montbly figures show a close correlation with those for smallpox, and that rises in measles mortality are coincident with smallpox epidemics. For purposes of comparison we have plotted the smallpox figures along with those showing the seasonal incidence of measles (graph XV). We are compelled to infer that many cases of smallpox-especially when a smallpox epidemia exists--are registered as measles, so that the householder, the registrar and the sanitary inspector may avoid trouble. It is the duty of the medical registrars to check the cause of death, particularly in suspicious cases, and this check seems to have been neglected to a considerable degree if the registered figures are to be taken at their face value.

## PLAGUE.

44. Plague has never been a menace to the health of Madras City and needs no consideration in any review of health conditions. Table $\mathbf{F}$ gives figures for 1910-26.

## MALARIA:

45. Detailed figures are given along with graph XVI. The high figures for the years 1910--15 inclusive cover the malaria epidemic, which created so much havoc, especially in the areas of Tondiyarpet and in, parts of Mylapore and Purasawakam. With the aid of a three-lakh grant, from Government, this epidemic was gradually brought under control, anti-malarial work being continuously carried ou until April 1921; when for reasons of economy the Corporation finally disbanded the, small staff --" the idly busy department "-which had continued to work till that date. The smallest number of deaths (560) occurred in 1920, but since then the numbers have again gradually but steadily increased to a maximum of 1,347 in 1926. Probably, also, the actual deaths from malaria are much higher, because deaths from pneumonia, respiratory diseases, etc., primarily caused by the debilitating effects of malaria, are concealed under "fevers" and "other causes." The attention of Government and of the Corporation has been repeatedly drawn to these ominous figures, and warnings have been given by the Director of Public Health as to the imminent danger of another violent outburst. So far as we are aware, no heed has been paid to these warnings, although the Health

Committee of the Corporation recommended the sanction of Rs. 5,010 (asked for by the Health Officer) on 6th May 192j, and the Council sanctioned the proposal in January 1926. During the month of February 1927, however, a sum of Rs. 5,000 has been sanctioned for anti-mosquito work. The figures before us show that, although mialaria deaths have been registered in all areas of the town, the great majority of the increased numbers in the last three years have again occurred in the areas of Tondiyarpet and Mylapore. Probably because of the permanent antimalarial measures carried out in Purusawakam and its surroundings, tho incidence of malaria in that area bas not increased nearly to the same extent as in the other two. At the same time, the general figures for this disease indicate only too clearly the dangers of further inaction. An anti-malaria organization of considerable size is urgently required in order that adequate control may be effected.
46. In this connexion also we would draw attention to the mosquito nuisance which at present exists in many parts of the City. It is not too much to say that many of the inhabitants find it almost impossible to enjoy a decent night's rest, because of these pests. The majority of the mosquitoes belong to those species which are known to carry the filarial parasite, and, as is well known, filariasis, with its sequel elephantiasis, is not uncommon in Madras City. In parts of Georgetown and Triplicane, the imperfectly closed surface drains provide safe breeding-places, and regular flushing of the drains and sewers should be sufficient to prevent the stagnation of water which does take place, and must take place, before insects like mosquitoes can successfully emerge from their pupal stage. These measures are to the best of our knowledge not being carried out because the Drainage Superintendent does not have the staf necessary to clean these dangerous covered drains periodically. As at present arranged, we understand they are cleaned only once a quartor unless necessity for earlier attention arises. As they have been shown to breed millions of mosquitoes, regular weekly flushing should be carried out. The investigations made in 1912-15 showed that the ordinary housewell was a prolific source of anopheles mosquitoes, particularly A. Stephensi, a malarial carrier. Thousands of uncovered house wells exist in Madras, and they are almost certainly once more adding greatly to the present mosquito pest and require particular attention.

In any case, the two problems are really one but they can only be tackled when anti-malarial work again forms part of the activities of the Health Department.

## OTHER FEVERS.

47. In the graph for "other fevers" (graph XVII) the peak in August and September, which coincides with the peak in the "intestinal diseases", graph (graph X), suggests that a number of "intestinal diseases" are registered under this head. If this is the case-and we can think of no other explanation-then the "intestinal diseases" group should be correspondingly increased, and our estimate that these constitute 25 per cent of the total deaths is probably a very conservative one. The high incidence of "fevers" during 1910-13 is further evidence of the malarial epidemic of these years. The influenza epidemic of 1918 and the succeeding years accounts for the very high-incidence of this group from 1918-22. The significant rise in incidence during 1925 and 1926, to 940 and 1,194 , respectively, is an additional indication of the great increase of malaria in the City, and of the imminent danger of another violent epidemic.

## TUBERCLE.

48. Again excluding the abnormal years 1918 and 1919, an examination of the 17-year period (graph XVIII) shows that the incidence of tuber culosis is increasing at a very rapid rate, the highest number of deaths
$(1,604)$ having been registered in 1925. This may be partly due t6 better diagnosis of the cause of death, but in our opinion the evidence is conclusive that the population of Madras is becoming more and more impregnated with the tubercle bacillus. The great majority of the deaths in recent years have been registered in the very crowded wards of Georgetown (Divisions VII, VIII and IX), in Vepery (Division XII), and in Chintadripet (Divisions XV.EI and XVIII). There seems no doubt of the necessity for detailed examination of the housing conditions of the people living in these heavily infected areas. Besides tropical heat and dust, ill-ventilation and overcrowding from economic causes, malaria and other continued fevers, insanitary practices, the social customs, and prejudices of centuries-purdah, child-marriage, etc.-have all helped to undermine the vitality of the people, so that on the introduction of the infecting bacillus, large numbers of both sexes have fallen victims to the disease.

## RESPIRATORY DISEASES.

49. Excluding the abnormal influenza years, the figures show that these diseases have steadily and rapidly increased (graph XIX) ; the maximum figure $(4,941)$, that for 1926, being almost three times the average figure for the triennium 1910-12.
50. The total number of deaths from respiratory diseases plus tuberculosis during the period of years under review amounts to 62,435 . This figure represents $19 \cdot 5$ per cent of the total mortality or over 35 per cent of the deaths whose causes are differentiated. It is evident that, next to the intestinal diseases, this group constitutes the most important cause of sickness and death in Madras.
51. We have prepared a graph (graph XX) giving the monthly incidence of the combined group-respiratory diseases plus tubercle. The climatic conditions in Madras are admittedly severe all through the year, but the graph shows once more that the hot-weather months are the healthiest and that the death-rate increases rapidly in the months immediately following the north-west monsoon. Dampness of soil and unfavourable climatic conditions seem, therefore, to have an important influence on the incidence of this group. At the same time, even in May and June, the numbers of deaths from these diseases remain very high, the maximum in December being only about 13 per cent higher than the minimum in June. The indication is, therefore, that the main causal factors are at work throughout the whole year.
52. It has not been possible to obtain details as to the types of respiratory diseases causing these large numbers of deaths. Some must be due to tubercular infection, others to pneumonia and bronchitis, and it is probable that the cold damp conditions met with after the north-east monsoon are partly responsible for the heavy increases in December and January.
53. The death-rates per 1,000 of the population have been worked out for each division of the city and these-although universally high-show important differences. Excluding Division IX which includes all the General Hospital deaths, all divisions in Georgetown are well above the mean rate for the City, as is Division XII (Vepery) and Divisions XIV, XV, XVI, XVII and XVIII. These areas are almost identical with those which show high tuberculosis rates, and include nearly all the overcrowded parts of the City. There seems, therefore, to be a close connexion between overcrowding and she incidence of respiratory affections. Modern city conditions every where tend to cause respiratory diseases, and municipal bodies, recognizing this evil, are everywhere attempting to mitigate the unhealthy conditions which result from overcrowding and impurity of air.

## DEATHS FROM CHILD.BIRTH.

54. During the few years this cause of death has been registered as a separate entity, the numbers seem to be slowly increasing. The recorded figures (graph XXI) cannot, however, be used as a reliable guide to the actual death-rate from this cause, and further comment is uncalled for.

## OTHER CAUSES.

55. The annual statistics of deaths registered under this head shows that although a gradual increase in the total numbers has occurred over the 17 -year period under examination, the proportion of "other causes" to the totals of other columns in table A has remained more or less at'the same figure, viz., 43 per cent. This is fortunate for our purpose, as it would have been impossible to elucidate any facts regarding individual diseases separately registered, had any great variations occurred in the group now under consideration. The figures for 1818 and 1919 as usual show the effect of the influenza epidemic. In the pre-influenza yoars of the period, the figure for 1914 is considerably above the annual average, viz., 8,670, so that probably a large number of cholera deaths were concealed under this head. In the post-influenza period the average annual figure is 9,604, or 600 more than during the pre-influenza period, the years 1924, 1925 and 1926 all recording figures well above the average.
56. The following analysis throws further light on the subject :Other causes ... ... $\quad . \quad . \quad .$. Known causes of death ( $100-43$ ) ... $=57$ "
Of these known causes, we have foundIntestinal diseases ... ... ... ... =25 " Respiratory diseases .... ... ... =20 ", Total ... 45 "

This leaves a small balance of 12 per cent for all the other differentiated causes for which figures are given in table A. Probably, a considerable proportion of the 43 per cent of deaths from "other causes" is due to "intestinal diseases" and "respiratory diseases." On this presumption the deaths from "intestinal diseases" are probably as high as 38 per cent of the total in the City and those from respiratory diseases about 30 per cent.
57. Death-rates for " other causes" for each division of the City have been calculated, but the slight variations recorded do not permit us to draw any conclusions therefrom.
58. Graph XXII shows the seasonal incidence of this great mass of unknown deaths. The curve corresponds closely with the curve of "intestinal diseases" except that the August peak is not in evidence.

## SUMMARY OF PART I OF THE REPORT.

(1) The population of Madras has increased very slightly since 1901, and the increase which has occurred has been largely due to immigration of young adults. The proportion of young adults to other age groups in the City is much higher than in the standard population of the Presidency.
(2) During the last 20 years, increase in population has been largely confined to those areas lying on the outskirts of the older overcrowded parts of the City.
(3) The Muhammadan community has much the highest death-rate, and among the different sections of the Hindu community the death-rate progressively increases as one descends the social scale.
(4) The annual death-rate from all causes tends to increase rather than decrease in spite of the favourable age constitution of the population ; and the seasonal incidence seems to be governed by conditions associated with the two monsoon periods.
(5) The true iafantile mortality rate is somewhere about 500 per 1,000 based on the census population of this age group; and in the Georgetown divisions, the infantile mortality rates are much higher than in any other part of the City.
(6) The group of intestinal diseases is the most important cause of death in the City, being responsible for 37 per cent of the deaths whose causes are differentiated, and for from 25-37.5 per cent of the total mortality in the City. The incidence of this group reaches its highest peaks immediately after the two monsoon periods.
(7) Smallpox has become endemic in Madras and has been present in epidemic form four times during the last ten years. These epidemics. have followed deterioration in vaccination work.
(8) The incidence of measles coincides closely with that of smallpox, the inference being that many deaths from smallpox are registered as measles.
(9) Since 1920 malaria has steadily increased and latterly deaths from "other fevers" have correspondingly risen in number. This group of diseases in 1926 was responsible for 10.7 per cent of the total deaths in the City.
(10) Tuberculosis is rapidly increasing in'Madras and is now a serious menace to the population.
(11) Respiratory diseases have steadily and rapidly increased during the last 20 years. The total number of deaths from respiratory diseases plus tubercle for the period of years under review amounts to over 34 per cent of the total deaths whose causes are differentiated, and, for 20-34 per cent of the total mortality in the City. Next to the intestinal diseases, therefore, this group constitutes the most important cause of sickness and death in the City.
(12) Nearly 43 per cent of the total deaths in the City are undifferentiated, being registered under the heading "other causes." This figure, taken with others already commented upon indicates careless registration work.

## PART IL.

## OBSERVATIONS AND RECOMMENDATIONS.

## WATER-SUPPLIES.

1. The group of intestinal diseases having been shown to be by far tho most serious cause of the high mortality in Madras, we consider that the question of the City water-supplies-both piped and local-first demands attention.

Remembering the correlation between the incidence of cholera in Chingleput District and intestinal diseases in Madras City, it soems obvious that further attempts should be made to effect better sanitary control over the collecting area or areas from which the Red Hills Tank receives its supplies.

The present arrangements for purification by filtration of the Red Hills Tank water are admittedly inadequate, and the water analy dis reports from July 1926 onwards clearly indicate that chlorination has failed to destroy all of the pathogenic organisms in the water, because of its high organic content. The problem of purifying the Madras City water-supply has always been recognized to be a very difficult one, but definite recommendations have been made on various occasions, and finally by the Government Water Filtration Committee and by Colonol Clemesha. Whether the recommendations made in these reports are accepted or not, we are of opinion that the present system of supplying a mixture of filtered and unfiltered water is responsible for a considerable proportion of the morbidity from intestinal infections and that it should cease at the earliest possible moment. We consider that until the whole of the piped water-supply undergoes adequate purification, without being rendered unpalatable, it will be a difficult matter to effect any considerable reduction of the high death-rate from these water-borne diseases. It is regrettable that the present system has been permitted to continue for so long.

As the divisional death-rates from intestinal diseases are higher in those areas lying within the outskirts of the City boundaries, and the piped supply is inadequate there, additional and adequate supplies of piped water to these divisions are also required. These will necessitate the provision of additional pumps, or, re-arrangements of the distribution of the quantity now available, as, for instance, by the construction of overhead storage tanks in two or more outlying parts of the City. This, however, is an engineering problem and, having drawn attention to the necessity, we do not propose to make further comment in the matter.

## STANDARD OF SANITATION

2. The infective agents of these intestinal diseases, although mainly water-borne, are also spread by means of dust and flies, which contaminate articles of food and drink as well as food utensils. These two agencies arise mainly from defective conservancy, and during our inspections we have been impressed with the exceedingly low standard of sanitation which exists in many parts of the City. Towns with the most perfect scavenging arrangements have the lowest incidence of diarrhœaas and dysenteries, and the converse equally holds good. The figures given in the first part of the report prove conclusively that Madras City is no exception to this rule.

## PUBLIC AND PRIYATE LATRINES.

3. The habit of defecating indisctiminately in every available nook and corner and in every convenient side-drain, of which we had abundant evidence during our inspections, causes a tremendous amount of soil, water, air and food pollution with consequent spread of intestinal infections. We are convinced from what we saw all over the City, and particularly in that area lying off Walltax Road near Trevelyan-Basin, that great numbers of people resort to this habit simply because of the insufficiency of suitable latrines. A-new flushout latrine has recently been constructed on this site, but it was obvious that the accommodationi provided was totally inadequate for the numbers for whom it was intended to serve, with the result that the whole isurrounding area in cluding the ruined remains of the old latrine still standing in the vicinity; was littered with human excrement, much of which eventually found its way into the Buckingham Canal.

The types of sanded latrine and sanded enclosure which are to be met with in different parts of the City are entirely to be condemned, and there is no possibility of doubt that one of the most urgent :needs' in the city is the provision of a large number-of flush out latrines, providedwith a sufficient cleansing staff:' We had much evidence that the cleans:ing staffs at present employed fail to maintain the latrines in their charge' in a condition which might permit of their further use.: Until the general standard of the sanitary sense is raised, latrines will the fouled; and, once fouled, will not be used by others until they are again cleaned; The lack of a sanitary conscience, therefore, is not the sole cause for the indiscriminate deposition of excrement. No self-respecting person; be he cooly or municipal councillor, could be blamed for refusing to use some of the latrines we saw during our inspections: It was obvious to us that the existing numbers of public latrines are totally inadequate, as they were being used to such an extent that it was almost impossible for the sweepers to keep them clean. Large numbers of flush-out latrines are required and we are convinced that these would be used if they were made available. These latrines are all the more necessary because of the great lack, and even total absence, of private latrines attached to dwelling houses: We were, particularly struck by the deficiencies in this respect in all of the poorer residential areas, although where a house of 5 or 6 roome gives shelter to 50 or 60 persons-and this condition of affairs was by no means uncommon- no private house latrine could possibly cope with the demand for accommodation.

In passing building plans due regard should always be paid to the adequacy of latrine accommodation. It is evident that this point receives scant attention at present. The Health Officer's reports show that year after year, proposals for additional latrines have been sent up for inclusion in the municipal budget, but our inspections made it evident to us that very grave deficiencies continue.: We emphatically recommend that these proposals be now carried into effect at the earliest possible date. Deficiencies in conservancy and sanitation also arise from defective housing and overcrowding, but these questions will receive attention in a later paragraph of this report.

## REORGANIZATION OF THE CONSERVANCY SYSTEM.

4. We are of opinion that the vast amount of insanitariness prevalent in the City demands a complete reorganization of the conservancy system. At present the conservancy work which includes cleaning of drains, sweeping of streets, removal of house refuse, management of pail depots and removal of filth, is divided between the Engineering and Health departments. Of the three classes of drains, viz., side drains, closed drains pnd sewers, the first is cieansed by the Health Department, the two others
are in charge of a Drainage Superintendent subordinate to the Engineer. Boys, employed to remove silt from the silt buckets through which housedrains are connected up with the underground drainage system, have been placed at one time under the Health Dcpartment and at other times under the Engineering Department. Mr. Madeley, in his report of 1913, on the Madras City main drainage scheme, wrote as follows on this question :-" The material is not collected immediately it is taken out of the syphons, but is placed on the roadside, where it is not only unsightly and emits a smell, but what is much worse, the foul silt dries up, and turns into an offensive and dangerous dust which is blown about and efiters the eyes, mouth and lungs of the passers-by. It also penetrates the houses and settles on the food." Because of lack of co-operation and the restrictions of red-tape these conditions still prevail and the general cloansing of the to wn has never been satisfactory. We recommend the formation of a separate Cleansing Department, managed by an administrative officer with sanitary engineering experience, other than the Health Officer. Owing to the circumastances of the case, it will be necessary that the new department should remain for the time being under the control of the Health Officer, in order to avoid difficulties associated with the organization of the subordinate sanitary staffs, but eventually the two departments should be entirely distinct, the conservancy staff being separated from the sanitary staff. The Health Officer of a large city has got sufficient work in other directions, without being made responsible for cleansing and conservancy, and, in Madras, conservancy is so bad that a whole-time officer is essontial if improvement is to be effected.

For some years past motor lorries have been used in. Madras for the more speedy removal of street and house refuse. This is an up-to-date method which is to be commended, as the bullock cart, meandering along the streets and lanes, is part of an antiquated and uneconomical system. We recommend that a trial be given in one or two divisions to the gang system where hand carts and motors take the place of the bullock carts a system already proposed in the late Health Officer's special report of 1925.

As regards the motor lorries, we feel compelled to publish the fact that at the time of our inspection, nearly two-thirds of the total number of motors used for this work had been out of repair for several weeks, and, as a result, the conservancy organization had failed to cope with the daily collections, and refuse amounting to many tons was perforce left to decompose in different parts of the City:: Whatever arrangements are made for repairs, no workshop should be allowed to retain a disabled motor for weeks and months, as we found had been the case on more than one occasion. In any case, spare carts and lorries are always essential if scavenging work is not to fall hopelessly into arrears.

## SEWAGE.

5. Although the underground drainage scheme has been almost completed in certain divisions, particularly in those lying to the north of the City, over 57 per cent of the whole municipal area still remains unsewered, and even in the sewered areas a number of cesspools are still to be found. We do not propose that every part of the City should have sewers, as that would involve a tremendous financial burden, but we do insist that those divisions of the City, where the population is densely crowded, and where the death-rates from intestinal diseases and from respiratory diseases are highest, should be given the benefits of a sewerage system at the very earliest date. Where sewers exist, open side-drains are objectionable, not only because they are used as open latrines, but because of the difficulties of levels and of the insufficiency of flow. These conditions result in the side drains becoming mere elongated cesspits, which constantly give off large volumes of evil-smelling gases. We
recommend that all side drains should be closed as soon as possible, but simultaneously proper arrangements should be made for storm-water. drainage throughout the whole City, and particularly in the densely populated areas.

Hygiene means much more than environmental sanitation, but the requirements for improved environmental conditions should have the first call on available funds. These requirements: are (1) a sufficient and pure water-supply, (2) efficient sewerage and (3) efficient collection and disposal of street and house rubbish and filth. It has been shown that all these amenities of life are deficient in Madras, and until these primary essentials are provided, money spent on the development of other and minor health activities will give an iniadequate return, even although these other activities may be highly desirable in communities where the civic and sanitary conscience is already in existence.

## : PUBLIC AND PRIVATE DUST-BINS.

6. Sections 194-202 of the Madras City Municipal Act give ample powers to the Corporation in any efforts they may make for the improvement of conservancy; and more advantage should be taken of these provisions. In this connexion, we recommend that every house should. be provided by the owner with some approved form of dust-bin, where all, domestic refuse can be deposited ontil it is removed by the Corporation scavengers. : Much of the untidiness and insanitariness of the public streets is due to the habit of dumping everything from the house on to the open road, and the provision of public dust-bins will not, in our opinion, diminish this nuisance. The difficulty "with public bins seems to be, as the late Health Officer has stated, that "every one wants a dustbin but no one will allow it to be placed near his own house." It does not seem to be impossible to devise a type of private covered dust-bin which could accommodate the refuse of each house, without causing a nuisance to the residents, and without offending their sentiments, and we are of opinion that the Corporation should, in future, insist, on provision for these being included in all plans for new houses and for the remodelling of old houses ; and that every house in the City should also be provided. with these within, say, a period of two years.

## REORGANIZATION OF THE HEALTH DEPARTMENT.

7. The Health' Department may find it necessary to prosecute, but sanction of prosecutions should be given only after, the reorganization of the conservancy system already recommended has been carried out. Tightening up of the administration in these directions is essential, if individual householders are to realize that they have got certain duties to the community and that they must assist the Corporation if the terribly insanitary conditions now existing are to be permanently improved.

We would also suggest in this connexion that Assistant Health Officers should have offices in the ranges under their charge. . Similarly every Sanitary Inspector and Conservancy Uverseer should be compelled to reside in the division in which he works, and the same rule should be enforced in the case of Sub-assistant Surgeons in charge of Municipal Dispensaries. In each division or groups of divisions of convenient size, there should also be a sub-office of the Health Department at which all the local health officials may be found at certain hours of each day, so that residents may be able to lay before the officer concerned any matter, such as a blocked drain or syphon-trap, which requires immediate attention. In this way the great waste of time now incurred in the proeess of passing on written complaints and petitions from one department to another, or through the different grades of the Health Department, could be largely avoided. Reports regarding simple defects could be
transferred from the local Sanitary Inspector to the local drainage subordinate without any red-tape delay. Moreover the arrangement wo have suggested would bring the officials of the Health Department into immediate touch with local conditions.

## MILK SUPPLY.

8. Another question intimately associated with the prevention of intestinal diseases is that of an improved milk-supply for the City, not only as regards cleanliness but also as regards quality. This was the subject of a detailed note attached to the Health Officer's Report for 1913, in which it was shown that the supply of milk was entirely in the hands of petty owners, no less than 531 licences for milk-cow keepers having been issued in that year. We have no reason to believe that conditions have changed to any extent. As then, so now, it may be said that "the great bulk of the visible supply of milk for the City is in the hands of men who have neither the means nor the desire to aim at anything beyond immediate profit." As a result of the 1913 note, the Corporation opened a milk-cow depôt capable of accommodating 250-300 cows near Basin Bridge. This depôt has been largely used, and has considerably relieved the neighbouring area, but 8-10 other similar depots are required before the Corporation will be in a position to prohibit the keeping of cows in the cramped and insanitary cowheads to be found scatterod all over the crowded parts of the City. We would particularly draw atten. tion to the conditions existing in Park Town Division where large number of milk cows are housed under very insanitary conditions.

The provision of depôte, however, will do little to ensure a clean and wholesome milk-supply unless the Corporation adopt the Adulteration of Food Act and the regulations framed thereunder, which deal with the standards found by the Public Analyst to be applicable to milk and milk products in this Presidency. We recommend that the Act and the regulations be adopted by the Corporation without further delay.

## FOOD SHOPS AND COFFEE HOTELS.

9. A further question related to intestinal diseases is the more effective control of the large number of food shops, coffee hotels and similar places found in different parts of Madras. The number of these establish. ments has increased enormously during recent years and, they now cater, so we are informed, for à very large proportion of the total male population. With few exceptions, their sanitary condition is very unsatisfactory, so that they present a very serious obstacle to improvement in the health of the City, because of the dangers of utensil and food infections. They are all profitable concerns, and there seems to he no reason why more effective supervision should not he enforced. Lepers are not unknown in the milk trade, carriers of dysentery and typhoid both help to spread these infections when they are engaged in the preparation and sale of food supplies, whilst the arrangements for washing up and for disposal of refuse leave much to be desired. We, therefore, recommend that every such place should not only be compelled to take out an annual licence, but that to every licence stringent sanitary conditions be attached and that no licence should be issued until the conditions laid down are fully complied with. These conditions should be strictly enforced, as any leniency in this direction is tantamount to the sacrifice of human life. We would particularly stress the point that licence conditions, once accepted by the Corporation, should be systematically enforced, and that appeals to the Standing Health Committee should be consistently rejected unless the appellant has carried out all recommendations made by the Health Department.

Food Inspectors were at one time employed by the Corporation, but without an Adulteration of Foods Act, and without support from the

Corporation, their efforts to effect improvements and to prosecute offenders were rendered useless, and the appointments were ${ }^{\prime}$ 'eventually abolished. We recommend reconsideration of this question, and if the appointment of full-time Food Inspectors be not considered feasible, then the divisional Sanitary Inspectors should devote part of their time to the inspections permitted under the Act. Now that the services of a Government Public Analyst are a, vailable, there seems to be no necessity to postpone further this important question of improvement of food sup plies or to wait until the Corporation has built its own Public Health Laboratory.

## MARKETS--PRIVATE AND PUBLIC.

- 10. Associated with the same question of food supplies arises the provision of a sufficient number of sanitary markets. The Corporation itself runs two large markets, but there are no less than 33 private markets in the City. Many of these private markets are so overcrowded that it is a very difficult matter to keep them in a sanitary condition. Few, if any, are equipped with a sufficient number of modern latrines or urinals, and the majority are in fact managed from one view-point only, viz., that of revenue ; and, although nominally licensed by the Corporation, any interference on the part of the Municipal Health authority is hotly resented. The result is that in these markets food supplies of all kinds are exposed to gross contamination, and municipal regulations are a dead letter.

In many parts of the City, food of all kinds is exposed for sale by petty merchants who squat along the street side-drains. Here again, regulations exist but are never enforced, probably because it has been recognized that no better alternative sites exist. One of the duties of the Corporation-in the absence of private enterprise-is to provide additional public markets of a sanitary type for the accommodation of all food salesmen. Only when this has been done, can prosecutions of "squatters" for contamination of food supplies be justly enforced. In our opinion, there can be no doubt that the contamination of food supplies in Madras plays an important part in the production of the enormous mortality from intestinal diseases of all kinds. We recognize the fact that the acquisition of land in suitable sites for additional markets must be expensive, but the present unsatisfactory arrangements cost large sums in sickness and loss of life, and even although initial capital expenditure may be high, the plan suggested will eventually be the more profitable to the community at large.

## OFFENSIVE AND DANGEROUS TRADES.

11. In connexion with the question of the control of offensive and dangerous trades, we find, from the special report made by the Health Officer in 1925, that the Corporation has not yet adopted the by-laws required, and has apparently postponed a decision as to the policy to be
 Qш安() and oil engines are a constant source of nuisance, if not a danger, in residential areas; but a resolution to refuse permission for the
 within 50 feet of any dwelling house was, on appeal, cancelled by the Standing Committee (Health). We recommend that the whole question of the control of these dangerous and offensive trades be taken up by the Corporation without further delay, and that a definite policy of refusing licences to all such trades in residential areas be adopted without any exception, and that no appeals from this policy should be considered.

Fourteen years ago the attention of Government was drawn to the necessity for removing their lime-kilns situated in Poonamallee Road. The surrounding land has within recent years been laid out as a large
residential ares, but the lime-kilns still exist in their former condition. We are of opinion that the Government should remove these to a suitable site outside municipal limits without any further delay.

## LICENCES AND BUILDING PLANS.

12. The general question of licences issued by the Corporation call for further remarks. Licences for offensive trades, coffee hotels, etc., are, we understand, issued by the Licence Section of the Revenue Department on the recommendation of the Health Department. But licences for petty shops and bunks on the pials of dwelling houses are generally granted by the Licence Section without any reference being made to the Health Department. These bunks very frequently are erected on the pials in such a position as to prevent the opening of windows, and, as such, interfere considerably with house ventilation. The Licence Section does not object to such closure, although it is objectionable from the health point of view. We therefore recommend that the former system of distributing licensing work to the department with which such licences are immediately concerned should be reintroduced. The Sanitary Inspectors of the Health Department are expected to report obstructions to ventilation and light, and no consideration of revenue alone should be allowed to intervene with their removal.

Building plans are at present, we understand, scrutinized only by the Engineering Department. No doubt that Department examines such plans with reference-to the rules and by-laws in force, some of which deal with sanitary requirements. At the same time, it is important that all plans for new constructions or for re-constructions should be carefully examined by the Health Department, and we therefore recommend that - the previous practice in this connexion be here also re-introduced.

## THE COOUM RIVER.

13. As the question of the insanitary condition of the Cooum River has been brought to our notice, we have made an inspection of the areas of the City lying dlong its banks. Considerable quantities of sewage are discharged into the river, and its banks are used as a vast open latrine. Both of these conditions are offensive, not only to the aesthetic sense, but to the general health of the community. Improvement in the conditions now in-existence is urgently necessary; for every one knows how unpleasant the Cooum is at times. We recommend, therefore, that all discharges of sullage and sewage, such as those from the General Hospital and the Penitentiary compounds, should be diverted to the underground sewage system as soon as possible. We have already recommended the construction of additional flush-out latrines all over the City, and these are particularly urgently required in Chintadripet and Egmore divisions, if the Cooum is to be maintained in a more sanitary state. The Director of the King Institute had a mosquito survey of the Buckingham Canal and Cooum River carried out in February 1927, and the breeding places which have been found there are to a considerable extent responsible for the mosquito nuisance in the neighbouring areas. The necessary preventive measures in this connexion can best be dealt with by the anti-malaria organization suggested in paragraph 19 of this part of the report, but, if the river be under the control of the Public Works Department, these should be carried out by that Department.

## RESPIRATORY DISEASES AND HOUSING.

14. This group, which we have taken to include tuberculosis, as the great majority of deaths from tubercular infections are due to lung whose causes have been differentiated or for about 20 per cent of all deaths
in the City. We have no doubt that many deaths registered under "other causes" should also find a place in this category.

One of the factors at work is undoubtedly the housing conditions in large areas of the City ; many of the so-called houses being unworthy of the name. During our inspections, we have seen as many as 5 and 6 families living in one house, and 5 to 8 persons living in each room. We are convinced that overcrowding exists to an alarming extent, and that the evil conditions arising from overcrowding are largely responsible for much of the sickness and mortality arising from respiratory diseases in general, and tuberculosis in particular, and, as we have already stated, for the diseases associated with the consequent lack of sanitation. Enquiry has shown that pneumonia is a very common disease throughout the whole year, and many of the deaths among young children must be due to this and other respiratory affections caused by the lack of fresh air, and the generally insanitary conditions always associated with overcrowding.

## THE TOWN-PLANNING TRUST.

15. Private enterprise has done practically nothing during the past decade in the building of houses for the poorer classes. The Corporation has made one minor attempt which has failed, but conditions are so serious that we consider that the time has come for the Madras Town-planning Trust to be allowed to function, so that it may proceed with the opening up and rebuilding of slums and overcrowded areas. The Madras Town-planning Trust so far has been a mere advisory body, and, having no income and no executive, it has found itself unable to work the Town-planning Act. We suggest that the present Act should be revised where necessary, that the Town-planning Trust be initially financed by grants from Government, and that it be empowered to engage the necessary engineering and other staffs, so that it may carry through improvement schemes for the worst of the slums and overcrowded areas in the City.

The.Town-planning Trust should also be required to cater for the population living in the 120 -odd private and Government cheries and hutting grounds scattered all over the City. Various unsuccessful attempts have been made by the Corporation from time to time to compel the private owners of these cheries to carry out sanitary improvements or to provide the minimum of sanitary conveniences, but no progress has been made so far as we are aware. Amendment of the City Municipal Act should be made in this respect, especially if it be the case that Government auditors have objected to the Corporation even sweeping and cleaning lanes and paths in these areas, a point noted in the Health Officer's Special Report of 1925.

## " SQUATTERS."

16. We have seen large numbers of "squatters'" camps scattered all over the City, and we understand many families do not even seek for a camp but sleep in the streets and lanes. These camps are additional evidence of the lack of cheap housing accommodation, and apparently sites are selected as and where the "squatters" choose. The English Housing Acts refuse permission to demolish any houses or slums until alternative accommodation is provided for those who are to be evicted. We suggest that the same policy should be adopted in Madras and that the City Municipal Act (section 175 et seq.) should be amended accordingly. Meantime, any action taken under section 175 merely causes an increase of overcrowding in some other locality. We are convinced that with improved water-supplies, drainage and conservancy, and the opening up of slums, the provision of additional housing accommodation would quickly lower the general death-rate from respiratory diseases.

## TUBERCULOSIS.

17. As regards taberculosis, any remedial measures to be effectire must be comprehensive, and, if nothing is done to give the people of Madras a sanitary and healthy environment, other actirities usually included in the category of anti-tuberculosis measures will accomplish little by themselves. At the same time, there are certain prodisposing factors which can be combated or eliminated, and attention to these will be of value. Madras City has an evil reputation for dust, and any abatoment of this dangerous nuisance would be universally wolcomed. We áre of opinion that the Corporation could do much more than it does in this respect. Watering of the roads at stated hours should be systematized, and, although salt water is not suitable for this purpone, large numbers of surface tanks exist in Madras, which would give an almost unlimited supply of water for street-watering purposes. Shortago of water in the Red Hills Tank cannot therefore be accepted as an oxcuso for neglect of this elementary municipal duty.

Road and street dust can be almost permanently eliminated by the adoption of modern methods of road-making. No doubt certain important streets in the City have already been dealt with, but the modern motor bus quickly destroys a gravel or red-earth road, and the Corporation should expand very considerably its programme for the metalling and tarring of roads and streets. Finally, we consider that there should be constant co-operation and co-ordination between the different Corporation departments and other bodies such as the Electrical Supply Company, so that the re-opening up of newly laid roads may be avoided as far as practicable.

As regards definite anti-tuberculosis measures, additional dispensaries are required, from which all suspected cases might be transferred to the Tuberculosis Institute. No municipal body could afford to provide facilities for every case of tuberculosis living within its area of jurisdiction, but in the absence of other sanatoria, and as an educative institution, we suggest that the Corporation should acquire a large site, capable of expansion and reasonably near the City, where accommodation on the lines of the Madanapalle Mission Board Sanatorium might be provided for a certain number of tubercular patients.

## INFANTILE MORTALITY.

18. Infantile mortality being, as we have already shown, over 500 per 1,000 in certain divisions of the City, it is necessary for us to discuss the subject separately, although it is one which is very closely associated with questions already discussed. When an improved and extended water-supply, improved conservancy and drainage, a clean milk-supply and protected food-supplies are provided by the Corporation, we are confident that the infantile mortality rates will immediately fall to something comparable with those of western countries. So long, however, as these primary essentials of a healthy life are not available in Madras, so long will minor health activities, such as child-welfare work, fail to give expected results in the shape of healthy babies and healthy children. By this we do not intend to deny the advantages of carrying out childwelfare work and similar health propaganda even under present circumstances, as that work will go a long way to dispel the dark clouds of ignorance on health matters. We consider, however, that no important or lasting reduction in the "slaughter of the innocents" can be anticipated so long as the primary essentials to health, viz., pure air, pure water, and pure food, are so terribly lacking.

Having regard, however, to the inevitable expansion of child-welfare work which must take place in the City, and the necessity for coordinating this work with the general activities of the Health Department
we recommend that a female Assistant Health Officer be appointed to be in charge of the whole of the Corporation's organization dealing with child-welfare and maternity relief work.

## MALARIA AND OTHER FEVERS.

19. This group has been shown to be responsible for nearly 11 per cent of all deaths in 1926. The evidence is complete that malaria is an imminent menace to the health of the City. We recommend that the Corporation reconstitute the anti-malaria organization disbanded in 1920, and that the measures adopted as a result of the investigations made in 1912-14 be made the basis of the work to be done by that organization. These measures were very successful before, and we have no reason to doubt that they will not be equally successful now, especially as the statistics show that the worst affected areas are precisely those which gave the highest malarial incidence during the epidemic of 1912-14. The anti-malaria organization will be largely an anti-mosquito organization, so that the two problems are really one.

Since drafting this paragraph we are informed that the Corporation has budgeted for a sum of Rs. 20,000 for anti-malarial work. We recommend that for some years to come the Government should assist in this campaign by contributing at least an equal amount.

## SMALLPOX'

20. Smallpox, in our opinion, is endemic in the City because vaccination has been allowed to deteriorate, and the four epidemics experienced during the last ten years are the direct result of this deterioration. If, with the introduction of a new and potent vaccine lymph and with increased supervision, but with a non-medical staff, it has been possible in rural areas to control small pox more or less successfully, it is not apparent why a staff of medically qualified vaccinators has failed to effect'equally good control in a restricted city area. We understand that in 1920 the duties of registration of births and deaths and vaccination were combined, the actual staff now at work consisting of 15 medical registrar-vaccinators of the L.M.P. grade assisted by 31 Assistant Vaccinators. We make the recommendation that separate staffs should be maintained for registration and for vaccination work and that better supervision by the Assistant Health Officers should be carried out in order that large numbers of children should not escape vaccination. This appears to us to be the more important as the Health Officer has repeatedly complained of the failure on the part of householders and others to notify the authorities of cases of smallpox in order to avoid the troublesome visits of the preventive staff. So-called economy has frequently demanded the combination of registrar and vaccinator in one person, but, wherever it has been tried, it has been always unsuccessful. We also suggest that in future, when registering deaths from smallpox, the vaccinal condition should be noted.

## REGISTRATION.

21. We would draw special attention to the high proportion of deaths (43 per cent) which ${ }^{-}$is totally undifferentiated. With a medically qualified registration staff we think that this proportion might well be reduced if the staff carried out their duties in a more responsible fashion. The high figures which appear in epidemic years show that due care is not being exercised, and, until this high figure is reduced, it will be almost impossible for the Health Department or the Corporation to initiate preventive measures in connexion with these large numbers of deaths with any certainty of success.

## COMMUNAL HYGIENE AND HEALTH PROPAGANDA.

22. It may be ,beyond our sphere of reference, but we cannot but remark on one outstanding feature of Madras City. No observant person can fail to notice the entire lack of co-operation between the individual citizen and the Public Health Department of the City. In all civilized countries, the development of a civic and sanitary conscience has been the primary force which has compelled municipal bodies and local boands to make progress in communal health, but until that conscience is more evident in Madras, communal hygiene will continue to be the sport of political parties, and improvement will not be realized. We would recommend that a definito scheme of health propaganda bo carried out week by, woek and month by month by all officers and Sanitary Inspectors of the Public Health Department of the City. The teaching of hygiene in schools and colleges is also most desirable, and we suggest that some use be made of the Medical Inspectors of schools in this connexion. All health propaganda work should be actively supported by Municipal Councillors in their respective divisions, and, in order to develop a healthy competitive spirit, weekly and monthly divisional mortality and sickness returns should be presented at all municipal meetings and distributed broadcast all over the City. These returns should appear in the local press and should also be exhibited at cinoma performances. The average citizen of Madras takes little or no interest in the health of his fellow citizens. No possible method of changing his outlook in this respect should be neglected.

## ECONOMICS AND NUTRITION.

23. We have intentionally left out of our report any discussion on the question of the economic position of the population of Madras, as it seemed to us that this might equally apply to the general mass of the people in the Presidency. We are aware of the value of civic surveys from the economic standpoint, but we felt that this lay outside the scope of our enquiry.

The subject of food values and of defective nutrition might also have been included, but we understand that the Royal Agricultural Commission has taken evidence on that question and, as it also refers to the general population, we have omitted it from our report.

## THE HEALTH OFFICER.


#### Abstract

24. In the course of our observations and recommendations, we have demonstrated certain grave defects both in the organization of the Health Department and in the methods adopted in connexion with the advancement of the health of the citizens of Madras. We would stress the extreme importance of placing the Public Health administration of the City in the hands of a Health Officer who possesses sufficient experience to overcome not only the lethargy of the citizens but also the resistance to advance which is so frequently met with.


## CONCLUSION.

25. We are only too well aware that any attempt to carry out the recommendations made in this report will involve the expenditure of large sums of money, but courage and imagination on the part of the people and of their representatives in the Corporation are necessary if the terrible conditions existing in Madras City are to be mitigated and finally wiped out. "The problem is fundamentally one of bold finance." The value of a population as a financial asset has been estimated at "five times that of all other assets, real and personal," so that "money spent on preventive medicine which increases the productive years of the citizens
and diminishes their loss by sickness, is the soundest of financial investments." The development of local self-government is approved both by the Government and by the people of this country. We trust that the facts set out in this report will demonstrate to the citizens of Madras that the main function of self-government is to foster the prosperity and the health of the governed.

## SUMMARX OF RECOMMENDATIONS.

1. Water supplies
(a) Better sanitary control of collecting areas from which the Red Hills Tank receires its supplies.
(b) Adequate purification of all the water from the Red Hills Tank.
(c) Additional and adequate supplies of piped water to the outlying parts of the City.
2. Public and private latrines-
(a) The provision of a large number of flush-out public latrines.
(b) The provision of a private latrine in every house in the City.
3. Reorganization of the conservancy system-1
(a) The formation of a separate Cleansing Department, managed by an administrative officer with sanitary-engineering experience other than the Health Officer.
(b) The trial of the gang system with hand carts, and motors to replace the present bullock carts.
(c) The provision of a large number of motor lorries for removal of house refuse.
(d) Improved organization of the repair workshops.
4. Sewage-
(a) The complete sewerage of all the densely populated areas of the City.
(b) The closure of all side-drains and the simultaneous provision of arrangements for removal of storm water.
5. Public and private dust-bins-
(a) The more efficient application of sections 194-202 of the Madras City Municipal Act.
(b) The provision of private dust-bins in all pláns for new houses and for remodelling of old houses, and in all other houses in the City within a period of two years.
6. Reorganization of the Health Department-
(a) Assistant Health Officers to have offices in the ranges under their charge.
(b) Sanitary Inspectors, Conservancy Officers and Sub-Assistant Surgeons in charge of municipal dispensaries to live in municipal divisions in which they work.
(c) The provision of a sub-office of the Health Department in each municipal division, or group of divisions at which all local health officials may be found at certain hours of each day.
(d) The appointment of a Health Officer possessing experience sufficient to overcome the lethargy of the citizens and the resistance to advance so frequently met with.
7. Milk supply-
(a) The opening of $8-10$ milk-cow depôts in different parts of the City, and the prohibition of keeping of cows in verandahs, courtyards or in small insanitary cowsheds attached to dwelling houses.
(b) The immediate adoption of the Adulteration of Foods Act and the regulations framed thereunder.

## 8. Food-shops and coffee hotels-

(a) The licensing of all food shops, coffee hotels and similar places in the City.
(b) The attachment of stringent sanitary conditions to every such licence and the refusal to issue any licence until all the conditions are fully complied with.
(c) The rejection of all appeals made to the Standing Health Committee unless appellants have carried out all recommendations made by the Health Department.
(d) The appointment of at least two Fond Inspectors.
9. Markets, public and private-
(a) More efficient control of private markets under licence conditions prepared by the Health Department.
(b) The provision of suitable sanitary conveniences, and better arrangements for the cleansing and conservancy of all markets.
(c) The provision of additional public markets for the accommodstion of food-salesmen at present allowed to squat by the street side-drains.
10. Offensive and dangerous trades-
(a) The licensing of all such trades, under strict conditions to bo laid down by the Health Department.
(b) The refusal of licences for such trades in residential areas and the rejection of all appeals made against this policy.
(c) The removal of the Government lime-kilns in Poonamallee High Road.
11. Licences and building plans-
(a) Licensing work to be redistributed to the departments with which such licences are immediately concerned.
(b) All building plans to be scrutinized by the Health Department.

## 12. The Cooum River-

(a) The provision of additional flush-out latrines in Chintadripet and Egmore divisions.
(b) The diversion of all sullage and sewage, now running into the Cooum, to the underground sewage system.
(c) The prevention of mosquito breading in the Cooum and Buckingham Canal by the anti-malaria organization.
13. Housing and the Town-planning Trust-
(a) Amendment of the Town-planning Act.
(b) The Town-planning Trust to be initially financed by Government and to be empowered to engage the necessary engineering and other staffs in order that it may carry through improvement schemes for the slums and overcrowded areas of the City.
(c) The provision of decent housing accommodation for the people now living in the private and Government cheries and hutting grounds.
(d) Amendment of the City Municipal Act so that the Corporation may be enabled to undertake cleansing and conservancy of these cheries and hutting grounds.
(e) The provision of decent housing at the lowest possible rate, and the abolition of "squatters."
14. Tuberculosis-
(a) The systematic watering of streets in order to minimize the dust nuisance.
(b) A large extension in the Corporation's programme for metalling and tarring of roads and streets.
(c) The provision of additional dispensaries.
(d) The opening of a suitable site for the accommodation of tubercular patients on the lines of the Madanapalle Mission Board Sanatorium.
15. Infantile mortality and child-welfare work--
(a) The confinuance of child-welfare work as means of spreading knowledge of health.
(b) The appointment of a female Assistant Health Officer to be in charge of the whole of the Corporation's organization dealing with childwelfare and maternity relief work.
16. Malaria and mosquitoes-
(a) The reconstitution of the anti-malaria organization disbanded in 1920.
(b) Prosecution of the anti-malarial measures proved to be successful in 1912-14.
17. Smallpox-
(a) Separate staffs to be maintained for"vaccination and registration work.
(b) Better supervision of the vaccination staff by the Assistant Health Officers.
(c) The output of work by the vaccination staff to be raised to the standard attained in 1910.
18. Registration-
(a) Better supervision of registration; worle by Assistant Health Officers.
(b) Better differentiation of causes of death and the removal from " unknown causes" of all deaths due to infectious diseases.

19: Communal hygiene and héaith propaganda-
(a) The adoption of a definite scheme of health propaganda by officers and Sanitary Inspectors of the Health Department.
(b) The teaching of Hygiene in schools and colleges.
(c) The publication, weekly and monthly; of divisional statistics of births and deaths by leaflets, through the Press and in cinema houses.
5th April 1927.
A. J. H. RÜSSELI, LIEUT.-CoL., İ.M.S.,

Chairman.
Members=

1. H. H. KING, MAJOR, I.M.S.
2. S. VENKATACHALAM CHETTI.
3. O. THANIKACHALA CHETTI.
4. G. NARAYANASWAMI CHETTI.

Table $\mathbf{D}$.
Infantile derath rates for divisions frome 1910-19.


Table E.
Infantile death rates per division for 1920-26.


## Table F.

Total deaths registered from " Plague" during each month from 1910-26.


# REPORT <br> OF THE <br> 4 <br> <br> cITY HIGH MORTALITY COMNITTEE 

 <br> <br> cITY HIGH MORTALITY COMNITTEE}

PART II



MADRAS
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS

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Reg. No. $\frac{869}{1}$

## MADRAS TOWN



## Graph I

Madras City
Graph shows the seasonal incidence of Rainfall, Temperature a Humidity. AVERAGED OVER THE PERIOD 1910-1925


Total deathe from all Causes in 1910-1926 by monthe of the Year.


Deaths under one year of age.

|  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Deaths in the age group $1-5$ years.


Infantile mortality by months for Diarrhoea and Dysentery for 1910 to 1925

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |



Total deaths registered from 'Cholera' during each month of 1910 to 1926 (excluding $1918 \& 1919$ )


Total deaths registered from 'Dysentery and Diarrohea'during each month from 1910-1928 (excluding $1918 \& 1919)$


Total deaths registered from 'Enteric Fever' during each month from 1910-1926
(excluding $1918 \& 1919$ )


Bowel Diseases 1910-1925. (less 1918 and 1919)


## Graph XI

Graph showing the seasonal variations in the organic content (absorbed oxygen) of raw water AVERAGE FOR 3 YEARS FROM 1923 TO 1926.


Reg. No, 870
Helio-Zinco., Survey Office, Madras. 1927.

Copien 500

Graph XII
Seasonal incidence of Cholera in Chingleput DISTRICT IN THE PERIOD ( $1910-1925$ ).


Total deaths registered from 'Smallpox' during each month of 1910-1928.


## Graph XIv

NUMBER OF CASES VACCINATED SUCCESSFULLY IN MADRAS FOR EACH YEAR FROM 1910 TO 1925.


Total deaths registered from 'Measles' during each month from 1910-1925.


Total deaths registered from 'Malaria' during each month from 1910.1926
(excluding 1918 \& 1919)


Total deaths registered from 'other fevers' during each month from 1910 to 1926 (excluding $1918 \& 1919$ )


GRAPH XV:
Total deaths registered from 'Tubercle' during each month from 1910 to 1928
(excluding $1918 \& 1919$ )


Total deaths registered from 'Respiratory diseases' during each month from 1910 to 1926 (excluding 1918 \& 1919)


Respiratory diseases plus Tubercle for the period 1910 to 1926 (excluding $1918 \& 1919$ )

|  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Total deaths registered from 'child birth' during each month from 1921 to 1825


Deaths registered from other causes' during each month from 1910 to 1926 (excluding $1918 \& 1919$ )


REPORT OF THE STATISTICAL ENQUIRY COMMITTEE.

* Madras : PRinted by the superintendent, govebnient press.


## REPORT OF THE STATISTICAL ENQUIRY COMMITTEE.

Constitution.-In G.O. No. 2002, dated the 22nd September 1931, the Government constituted a Committee to advise them on the following questions :-
(1) What statistics of prices (wholesale and retail) and what other statistics relating (a) to the Madras Presidency and (b) to territories outside the Madras Presidency should be collected and in what form and from whom;
(2) what agency should be employed to control the work of collecting and dealing with statistics;
(3) what use should be made of the statistics when compiled, e.g., in what form should they be recorded or published; and
(4) what the cost of the proposals would be to Government.

In G.O. Ne. 2129, dated the 8th October 1931, the Government desired that the Committee should consider the question of devising a set of statistical returns from which it would be possible to deduce an index figure of the cost of living, from time to time, of those classes from which Government servants of various grades are recruited.
2. Members.-The Committee so constituted consists of the following members:-

Mr. C. A. Souter, I.C.S., Commissioner of Land Revenue and Settlement (Chairman).
M.R.Ry. Rao Bahadur D. Ananda Rao Avargal, Director of Agriculture (in charge).

Mr. L. B. Green, Director of Industries (in charge).
Mr. H. Trevelyan, I.C.S. (Member and Secretary).
Dr. D. B. Meek, o.b.E., Director-General of Commercial Intelligence and Statistics, Calcutta, was invited to assist the Committee. The Committee wish to record their grateful thanks to him for his invaluable advice upon which the recommendations in this report are based.
3. The agency of collection and co-ordination of statistics.-Doctor Meek recommends that the ideal to be aimed at is that each department should have its own intelligence section, and that the work of these sections should be co-ordinated and supervised by an experienced statistician. He would meet the heads of all departments periodically, deal with all statistical problems put to him, and obtain all statistical information required by Government. We recommend the development of statistical work on these lines, rather than through a central bureau responsible for the collection of the figures required by all departments. That intelligence sections should be formed in every department is neither practicable nor necessary at present. They should grow in answer to the statistical needs of the departments. We recommend however that this ideal should be kept in mind and that the statistical work should as far as possible be kept distinct from the rest of the work of a department in order that supervision by a statistical officer and the eventual growth of intelligence sections may be facilitated. Having this in mind, we refer throughout this report to the clerks doing statistical work in each department, as the statistical section of that department.
4. In our opinion, the ideal to be aimed at is that there should be a statistical officer under the Board of Revenue, on the scale of pay of a Deputy Collector. The Commissioner of Land Revenue and Settlement would be in general charge of all

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4. In our opinion, the ideal to be aimed at is that there should be a statistical officer under the Board of Revenue, on the scale of pay of a Deputy Collector. The Commissioner of Land Revenue and Settlement would be in general charge of all
statistical work. He and the Secretary to the Board of Revenue would the the immediate superiors of the Statistical Officer who would have his office in the Board of Revenue and take under his control the Board's statistical section. We realize however that in the present difficult financial conditions of the Presidency, no new expenditure can be incurred. The immediate problem becomes therefore the disposal of the staff already existing. We considered the transfer of the statistical assistant to the Director of Agriculture to the Board of Revenue. The Agricultural Department do not however consider it possible to dispense with his services in that department. even if the supervision of the agricultural statistics in the districts were to be the duty of the officer under the Board of Revenue. Later in this Report, we recommend that the agricultural statistics should still be collected by the Agricultural Department in conformity with the principle of the departmental collection of statistics set out above. It is therefore reasonable that, although it is hoped that a large part of the Statistical Officer's work will be of a kind not at present attempted (see paragraph 5 below), the only existing Statistical Officer should not be taken arway from the department which incidentally collects the majority of the statistics, and from which the majority of calls for statistical information by Government must be answered. We therefore recommend that until such time as new expenditure can again be made, the Statistical Officer should remain under the Director of Agriculture though his duties should be enlarged, and that when financial conditions return to normal, the Chief Statistical Officer to Government should be under the control of the Board of Revenue, the Statistical Assistant to the Director of Agriculture becoming again as at present the head of the Intelligence section of the Agricultural Department. When the general statistical work is being done by a Statistical Officer at the Board of Revenue, the Agricultural Statistician will then be able to develop the statistical treatment of agricultural research work, which the Agricultural Department hope to begin at some future date, and to become an agricultural rather than, what he must be for the present, a general Statistical Officer.
5. New work to be done by the future Statistical Officer.-The new kind of work which we consider should be done by the Statistical Officer in the future, is as follows:-
(a) To answer all calls from Government for statistical economic information. For this purpose the officer should know what information is obtained by each department, and should co-ordinate that information so that it is all brought to the notice of Government. At present much statistical information of general interest is filed in each department and Government are not aware of it.
(b) To obtain information of market and crop conditions throughout the world which affect this Presidency, from the Director-General of Commercial Intelligence and Statistics and other sources, and to note upon it and present it to Government.
(c) To prepare statistical material for all Committees which require it and to conduct special statistical enquiries at the request of a department.
(d) To meet the heads of departments and to deal with statistical problems which they present to him.
(e) To present the statistics to Government in an intelligible form periodically or in answer to specific enquiries, and to be responsible for their final publication. The intelligence sections of the various departments will give him the figures in their possession. He with his technical knowledge will do the research work necessary on them (e.g., preparing weighted averages, estimating probable errors, preparing index numbers, etc.), and will thus be able to present them to Government in a form from which deductions can be drawn and which will provide evidence affecting Government's economic policy. At present for instance, Doctor Meek prepares graphs of prices, production, etc., as a basis for action by the Government of India.

The information referred to in (b) is probably the most important; and it will be of especial value in combination with information collected in the Madras Presidency by the various departments.
(f) To advise on the collection of statistics in all departments; and to explore new methods of efficient collection and elimination of error.

It will be seen that these duties can only be efficiently performed by a speciai Statistical Officer working under a central authority. That authority should, in our opinion, be the Board of Revenue. As has been mentioned above, the Agricultural Department have found it impossible to do without their statistical assistant, and we have no course but to recommend that until the appointment of a new officer, the Statistical Assistant to the Director of Agriculture should as far as he is able, begin the kind of work set out above. He obviously cannot, from his position, do all this work; and what he does must, for financial reasons, be without extra clerical assistance. We realize that this temporary arrangement will not solve the problems with which this Committee are concerned; but there is, for the present, clearly no other course.
6. Qualification of the Statistical Officer.-It will be seen that work of this kind depends not so much on a large clerical staff, as upon the abilities of the Statistical Officer. We realize that the success of the scheme to which we look forward depends entirely upon the possibility of finding a Statistical Officer with both high qualifications and common sense. We recommend that he should not necessarily be chosen from among Government servants, but that he should be selected for his intellectual ability and should be a man of academic attainments in mathematics and if possible economics. Doctor Meek is of the opinion that it will be possible to obtain a suitable'man from Madras, and promises to train him for some months in his office in Calcutta. The present Statistical Assistant to the Director of Agriculture is due to retire on 16th October 1932. It is doubtful whether his successor will be able to initiate any of the new statistical work unless he has received some training in Doctor Meek's office. We recommend that a person should be chosen as the new Statistical Assistant to the Director of Agriculture with a view to his transfer at some future date to the Board of Revenue as a general Statistical Officer, his place in the office of the Director of Agriculture being taken by a new man, whose qualifications, since he will be employed partly on statistical research work in agriculture, will not necessarily be the same. If it is in any way possible, the Statistical Assistant to be appointea -this year should be trained for at least two months in Doctor Meek's office before he enters on his new duties in next October. If this cannot be done, we doubt whether any of the new kind of statistical work which we envisage, can be attempted until the full scheme which we propose, can be put into effect. In that case, it will be better to appoint a Statistical Assistant to the Director of Agriculture with a view to his-permanent retention in that post, and to appoint the Statistical Officer to the Board of Revenue direct, when financial conditions make that appointment possible. If this course is decided on, only the detailed recommendations in this report concerning the collection of price statistics can at present be put into operation.
7. The most important statistical work to be done in this Presidency is not somuch to collect a multitude of figures, as to examine the figures when collected : not so much to search for more information, as to co-ordinate the information already obtained. To establish in this Presidency a regular system of collecting and coordinating statistical and economic information must be the work of a man who can claim to be a specialist in the subject at any rate by virtue of some mathematical attainments and a few month's training in Doctor Meek's office: for the kind of work which we envisage will need experience not to be gained in district administration and will suffer from a quick succession of amateurs recruited from the ordinary, cadre however capable they may be in district administration.

We realize that if in the future a Statistical Officer under the Board of Revenue is appointed from outside the service, the danger is that he might bring too academic an outlook to the administrative problems with which he will have to deal; but we trust that if it is found that no member of a service has the requisite qualifications and a person from outside the service has to be appointed, his immediate superiors, the Commissioner of Land Revenue and Settlement, and the Secretary of the Board of Revenue will be able to check the excesses of too sanguine a temperament and to guide him in the administrative side of his work.

If. the appointment is made from among the officials of the Revenue Department, we recommend that he should be chosen from the grade of Deputy Collector and should be a man who has had some mathematical training and would have, otherwise, been a possible candidate for the post of an Assistant Secretary to the Board of Revenue. In such a case the appointment should be for a minimum period of three
years, if possible for longer, and each new incumbent should be trained for about two montis in the office of the Director-General of Statistics.
8. The collection of the price statistics.-We consider it necessary that an accurate record should be kept of the price levels of agricultural produce in the districts.
9. Retail prices.-The retail prices of the principal food-grains must still be collected for the comparison with previous figures necessary as a basis of calculation in re-settlements. Once a week the retail price of rice, ragi, cholam, cambu, salt, paddy, korra, varigai, varagu and horsegram should be recorded at each pricerecording station at which large transactions in those grains take place. The pricerecording stations from which the price of each grain is now reported, should remain the same. We understand that the recording of retail prices is at present often left to a village officer, a peon or a talaiyari. For the sake of accuracy we propose that in the majority of stations which are the headquarters of a taluk the Paluk Head Accountant should be made personally responsible for the collection of these figures, that he should depute no subordinate official of rank lower than taluk clerk to record them and that he should himself convert the price from local to imperial measure. In a sub-taluk the head clerk should be personally responsible for the accuracy of the figures and should record them himself. In stations other than the headquarters of a taluk or a sub-taluk special arrangements must be made by Collectors, who should depute a reliable person (probably the Revenue Inspector) to record the prices. The price should be written in the taluk register in local and imperial measures. We propose that the figures should be recorded on one day of the week only; either at the market on market-day or, if there is no market, on Fridays. These price returns would be forwarded to the Board of Revenue with the weekly season report. Special arrangements would be made for stations distant from the headquarters station of the district, in order that the returns should all reach the Collector's office in time for their submission with the weekly season report. It does not matter on which day the prices are recorded at any station, provided that they are reported on the same day each week. We consider that if the prices were collected once a week only, a higher standard of accuracy could be maintained, and that the difference between the average of prices recorded every day in the month, and of prices recorded once a week during the month is negligible. We do not therefore consider that this change in the recording of prices should in any way vitiate their comparison with prices recorded under the method at present used. The Director-General of Commercial Intelligence and Statistics requires the retail price of rice, ragi, cholam, cumbu and salt recorded at certain stations on the 15th and last day of the month. Doctor Meek has, however, informed the Committee that he has no objection to receiving these prices recorded on any day during the second and last week of the month. We therefore recommend that the fortnightly return of retail prices from Collectors through the Director of Agriculture to the Director-General of Commercial Intelligence and Statistics be discontinued. The statistical section of the Board of Revenue will send in its place the required return to the Director-General of Commercial Intelligence and Statistics, taking the figures from the concerned Collectors' weekly returns for the second and last. week of each month.

The price statistics must still be collected by the Board of Revenue, as they are to be sent in with the weekly season report, the transfer of which to the Agricultural Department has been tried and found unsatisfactory; a second reason that the Board of Revenue should be entirely responsible for these figures is that they are used as the basis of re-settlement operations.
10. Comparison of old and new scheme.-This scheme for the collection of retail prices will involve considerably less work than the old system.

Under the old system prices were recorded every day. Three returns were sent:-
(a) The price on one day of the week of four food-grains.
(b) The average of the prices every day for the month of all the main foodgrains.

Of these the first were converted into imperial measures in the price-recording stations; the second in the Board of Revenue. The new system will make it impossible for the Board of Revenue's Statistical section to eheck the convergioni
from local measures, but experience has shown that this is rarely necessary, and we prefer that the administrative rules for the recording of prices, to be framed before the new scheme is put into operation, should presoribe that this check is made periodically by District Officers in the price-recording stations.
(c) The price on the fifteenth and last day of the month from sixteen stations.

Under the scheme which we recommend, prices will only be recorded once a week. Only one return will be sent from price-recording stations and Collectors, and all figures received by the Board of Revenue will be actual prices. Further, the Statistical section of the Board of Revenue will be relieved of the monthly conversion of the retail prices from local into imperial measures.
11. Causes of error.-We consider that the three chief causes of error in the statistics of prices are-
(a) Differences in the kind or quality of the products of which the prices are neported.
(b) Differences in the stage of the transactions at which the prices are reported.
(c) Deficiencies in the recording of the prices.

We recommend the following administrative arrangements to prevent the errors arising from these sources.
12. (a) Kind or quality of products.-This is the most important source of error. The definition adopted for the retail prices should be: "The price of the kind of rice (or other grain) most commonly consumed." This definition will satisfy also the purposes for which the retail price returns are required by the Government of India. To ensure that this definition is strictly adhered to, Collectors should be asked to state the name of the rice (or other grain) which most nearly corresponds to this definition in the country round each price-recording station. It has been suggested by Doctor Meek that each price-recording station should keep in a bottle standard samples of the grain the price of which is reported. We recommend the adoption of this suggestion.

In each case Collectors should be asked to report where the grain selected as being the most commonly consumed in a particular area was grown; in several cases this grain will probably have been imported from other districts or countries (e.g., rice consumed in Malabar). This consideration is, in our view, very important, and we wish to stress the necessity of knowing the exact nature and origin of the commodity of which the price is reported. Collectors and Revenue Divisional Officers should check the standards in all the stations which they visit and make sure that the information sent about the concerned grains is correct. We consider it most important that the Revenue officials in the districts should be encouraged to take more interest in the collection of statistics within their jurisdictions.

The Statistical Officer also, even if he is temporarily attached to the Director of Agriculture, should be able to examine the collection of price statistics in the districts and advise Collectors of any changes which from his technical experience he considers advisable.
13. (b) Stage of transaction.-There should be no difficulty in recognizing a retail transaction. It may be defined in the administrative rules as "The price of a grain paid by the person who is buying it for consumption."
14. (c) Accuracy in recording prices. -The suggestions made above should ensure greater accuracy in the recording of these prices. We suggest that the Revenue Divisional Officer and the Tahsildar should frequently check on their tours the accuracy of recorded prices and of the conversion calculations in the registers of the price-recording stations. Tahsildars and Deputy Tahsildars should have a general responsibility for the accuracy of the prices recorded in their offices.
15. Wholesale prices.-We recommend that when there is a Statistical Officer under the Board of Revenue the Imperial Bank should be asked to send to the Statistical section of the Board of Revenue once a month the wholesale prices recorded at their branches of the main agricultural products grown in each district. We suggest such commodities as the following: groundnuts, cotton, paddy, rice, castor, tohacco, sugar, turmeric, ginger, hemp, coconuts and pepper. In each district, however, the particular commodities should be fixed according to the volume of production in that district. These prices will be actual prices recorded
generally on the second Friday in the month. They are the bazaar prices recorded by the godown-keeper of the Bank, and on their evidence the Bank bases ita loan transactions. This should be a sufficient guarantee of accuracy for the purposea of Government, and we consider that these prices are the best wholesale price figures obtainable. The prices are already sent to the Head Office of the Imperial Bank, and those which we require can either be extracted by them or sent through Bank Agents and Collectors.
16. Preliminary examination by the Statistical Officer of these figures will be necessary in order to eliminate the three sources of error mentioned above. While there is only one trained Statistical Officer under the Director of Agriculture, it will be better that these figures should be sent to that department, as the examination of the figures on the lines suggested above will be an important part of the work of a Statistical Officer. Unless however even under the temporary arrangement the Statistical Officer is able to do a large part of the new kind of statistical work which we propose, the collection of these prices had better be deferred till the full scheme is in operation, as they will be of no use unless they are treated as being part of a scheme of collecting and co-ordinating economic information in the Presidency.
17. The Bank is not interested in the origin of the products on the security of which they grant loans, and their figures may include the price of certain qualities of products wholly or mainly imported into the district. Their figures, which record the prices of many different qualities of paddy (for instance) in a single district, may include varieties grown in the district only in small quantities. What is required is the price of the main agricultural products of the district, and the final determination of the exact products of which a price is required must be left to the Statistical Officer who must examine the figures on the spot and make a selection, having this purpose in view.

It is not necessary except possibly as a check to obtain wholesale prices for products the retail price of which is already collected by the Revenue Department, since one price level only is required: but if the rice, for instance, grown in the district is not the rice consumed, then the two qualities are different commodities, and both prices must be recorded.

The Statistical Officer must also satisfy himself what relation the products or qualities of a product in one district have to similar products in other districts, before he makes any attempt to compare or average the prices of any particular product throughout the Presidency.
18. It is probable that the prices recorded at the Bank are recorded always in the same type of transaction : but the Statistical Officer should if possible obtain exact information what prices these figures represent.

It will be possible for the Statistical Officer to check the Bank's price figures by the figures obtained from other sources, such as the Chambers of Commerce and the Press. (The prices obtainable from both these sources are considered below.) The Government will not be able, of course, to question the Bank directly upon the accuracy of their recording of prices.
19. The Director-General of Commercial Intelligence and Statistics requires twice a month the wholesale prices in Madras of rice, jaggery, horsegram, cotton seeds, turmeric, tobacco-leaf, salt and ghee. We consider that the present agency of collection, which is in fact the karnams of Madras, has produced not sufficiently accurate figures in the past. The Imperial Bank does not collect wholesale prices in Madras City, since agricultural products are not stored there for a long period, but are quickly exported or sold for retail trade. We propose therefore that the Southern India Chamber of Commerce, whose members deal in all these products, be asked to supply these prices, and that the DirectorGeneral of Commercial Intelligence and Statistics be asked to state what qualities of the various commodities should be selected.

It is doubtful whether Government will find any use in these figures, and we can arrange that they are sent direct from the Chamber of Commerce to the DirectorGeneral of Commercial Intelligence and Statistics who already obtains other figures direct from the Madras Chamber of Commerce.
20. Export prices.-Since the Imperial Bank does not record wholesale prices in Madras City they can be obtained, if required, from the Madras and Southern India Chambers of Commerce or from the monthly customs statements, which Doctor Meek considers would give sufficiently accurate figures. The Collector of Customs and the Chambers of Commerce could give the f.o.b. prices (export priceexcluding freights); and the Chambers of Commerce could also give the merchants ${ }^{2}$ buying price which would have a more or less constant relation to the export price. If the figures are to be collected, we recommend that the merchants' buying price be obtained. The only use that could be made of these figures is as a check upon the accuracy of the wholesale prices recorded in the districts, and possibly as an indication of the effect upon the district prices of the speculative operations of exporting firms. If Government consider that for these reasons they require these prices, we recommend that they be obtained once a month from the Chambers of Commerce for the agricultural products of which the prices are reported in the districts; and that after one year the question be reconsidered whether they are of any use to Government. While there is only a Statistical Officer under the Director of Agriculture they would have to be collected through that office.
21. The common measure.-We consider that the recording of the price in terms of imperial seers per rupee should be given up; and that the price in rupeesand decimals of a rupee per imperial maund should be substituted. This measure has the advantage of working the same way as the price, that is, the units become larger when the price becomes higher and vice versa; it is used throughout India, and tables for converting rupees per maund into shillings per ton are easily obtainable. We do not recommend the adoption of a metrical system in lb. since it is not used over the rest of India. The conversion of prices from-local into imperial measures in the price-recording stations will be as simple as at present. The price will be recorded in annas and decimals of an anna per local measure and columns (7) to (17) of the Board of Revenue's conversion table will read: "If the local measure costs one anna, the price of one imperial maund will be (in: rupees and decimals of a rupee)." The amendment of the conversion table will be carried out by the Statistical section of the Board of Revenue.
22. Publication and use.-When the proposed scheme is in full operation, the Statistical section of the Board of Revenue will be able to keep a record of the prices of all the main agricultural products in the Presidency. They will enter every week in a posting register the retail prices of the foodgrains and salt at every price-recording station: and in another register they will enter, once a month, the wholesale prices in the districts of the main agricultural products. (Under the temporary arrangement this register will be kept in the Director of Agriculture's office, if these figures are collected.) Thus in these two registers will be found a complete record of agricultural prices for the Presidency; and since each figure entered will be an actual price, it will always be possible to work on past figures in whatever manner is required at the moment. We recommend that the weekly reports of prices in the Fort St. George Gazette and the Board of Revenue's annual statement of retail prices should still be published since their regular publication will forestall a possible attack on the figures based on them at the time of resettlement. We consider that no monthly publication of figures or of economic information is necessary: but that a record of the general level of prices should be published annually by the Statistical Officer with an index number for each product, if possible, prepared by him. These index numbers must be weighted by the quantity of a crop produced in the area in which the price is recorded. The Statistical Officer will be taught in Doctor Meek's office how they should be prepared. The method of publication of these figures will be considered later in this report. We agree that it is possible to show by tables or graphs interesting relations between the price levels of crops and other statistics such as of variations in the area of a crop sown. But we consider that this, the technical side of the presentation of statistics, must await the trained statistician who will be expected to explore all methods of presenting the statistics collected, whether the information is given by him periodically or in answer to a specific request.

We do not consider it necessary to prescribe that the statistical informationcollected should be sent at any specific intervals to Government. The Statistical Office:-
will inform departments what statistics are to be collected in the various departments and ask whether the departments would like to receive any of them periodically or whether they only require them in answer to special requests. We suggest, however, that if departments require it, a monthly table of average retail and actual wholesale prices compared with similar figures of past years by meane of index numbers or by some other method, could be compiled and circulated by the Statistical Officer. It is of course doubtful if this can be done until a full-time officer is appointed under the Board of Revenue to do this kind of statistical work. We do not recommend that any information should be disseminated to the ryots, as we do not consider that the advantages to be gained could adequately compensate for the additional labour involved.
23. The collection of current economic information.-The kind of information which is required to gauge the economic condition of the ryot in the current and coming seasons is as follows:-
(a) Information of the condition of crops in the Madras Presidency and the prices being obtained for them;
(b) Information of the state of the same or competing crops in other parts of the world, with a forecast of likely world prices; and regular information of the state of world markets in those crops.
24. The first kind of information is already collected by various departments. For instance, the Board of Revenue collects retail prices from the Revenue department; the Agricultural department collects information of the state of the cotton crop from cotton firms and its own subordinates, and the department of Industries receives information of the state of the market for several products from the Imperial Bank. The little use that is made of these reports illustrates the need for an officer to co-ordinate economic information. The Madras Mail also frequently publishes information from their correspondents of the state of markcts and crops, and from time to time reports in great detail the current prices in the Tiruppur, Pollachi, Udamalpet, Vizagapatam, Bellary and one or two other markets. There is thus no lack of information. All that is needed is a Statistical Officer to note for Government on the state and prospects of the crops in the Madras Presidency, using all the information obtainable from these sources.
25. The second kind of information can be obtained from publications like the crop reports of the International Institute of Agriculture at Rome, from the market reports of the Press and Chambers of Commerce, from the Indian Trade Journal published every Thursday by the Director-General of Statistics and directly from the Director-General himself. In our view one of the most important duties of the Statistical Officer should be to keep in touch with the Director-Gencral and to obtain information from him. Doctor Meek has detailed to us the kind of information which he can give. It is as follows :-
26. (a) The information given in the weekly Indian Trade Journal. This journal is already subscribed to by the Government, but its use has been limited. The journal contains details of prices and trade movements, graphs of prices, crop forecasts, etc.
27. (b) Doctor Meek is prepared to answer any economic and statistical questions which this Government may put to him. He can, for instance, give a view if the market for a crop being grown at any time after the first forecasts are received.
28. (c) Doctor Meek can send to the Government periodically, if they ask for it, confidential information of the prospects of world crops and his view on the probable course of prices. He could not accept responsibility for any policy determined by Government as a result of the expression of these opinions: but the information would probably be useful to Government in relation to various questions.
29. It would be the duty of the Statistical Officer periodically and in response to specific enquiries, to provide information from the publications which he would receive from the Statistical sections in all departments and most of all from the Director-General of Commercial Intelligence and Statistics. In this
jnstance also we do not prescribe any specific periodical reports or notes to Government; for we wish to emphasise that the Statistical Otticer's work should exist durgely in response to the demands of Government and the heads of departments. The size of his staff and the nature and number of the returns sent by him to the Government will therefore depend directly on the use that Government wish to make of his services, and the development of his section will be an organic growth.
30. Statistical inquiry in connexion with marketing schemes.-Such inquiries depend upon a comparison between the ryots' selling price and the price at which the last middleman sells to the exporter. We are strongly of the opinion that it is -impossible to obtain reliable figures of the ryots' selling price, and with this opinion Doctor Meek entirely agrees. The first attempt to obtain these figures was in 1887; the last in 1929 when the Co-operative Department made a detailed enquiry into the -differences in price during the different stages in the marketing of the ryots' crop. But in view of the great divergencies in the methods of sale owing to which the selling price does not always represent the same kind of transaction, reliable figures have never been collected. The ryot sometimes sells the crop on the land, sometimes in bags in the village, sometimes at a market, and he may sell his rice crop -after 'hulling'it-for a fee at a local 'factory'. It is a frequent practice for the agent to advance money to the ryot on condition that the crop is sold to him wher it is harvested, for a price from which is deducted the interest on the money advanced, and in some places the ryot sells to a merchant through an agent who takes a commission. Frequently too there is one price for the rich and one for the poor, as the poor ryot cannot hold up his crop and is at the mercy of the agent, whereas the rich ryot can dictate his own terms. Moreover, the petty merchant who visits a village habitually uses false measures, and there are recorded cases where on this account he sells at a nominal loss, but really makes: a profit. The Co-operative Department regarded the figures which their subordinates collected as inconclusive though that enquiry was much more detailed than any which the officials of any department could have the time to make regularly. In 1889, the Madras Government decided that the best approximation which they could obtain to the ryots' .selling price was by making a fixed deduction from the current market prices; and having regard to the varieties in methods of sale of which a few illustrations are -given in this paragraph, and considering the difficulty of the regular collection of .these figures, we find no reason to alter the opinion then held, and consider that, -even if such figures were collected, no reliance could be placed on them nor deductions from them safely be drawn. We therefore consider that only in a special inquiry could figures of any value be obtained, and that the Settlement Officer has the best opportunity for obtaining information of this kind.
31. The production of crops compared with the demand.-The statistics of the volume of exports and imports will provide evidence throwing light upon this question. Figures of exports and imports by sea are published in the monthly and annual :statements of the Collector of Customs.- We do not consider it necessary that any figures should be periodically extracted from these compilations and published with the other statistics of agricultural products, since it should be the duty of the -statistical Officer to extract the necessary figures when they are required. (The -statistics of inland trade are considered below.)
32. The comparative profit of various crops.-It has been suggested that the Government should be able to tell the ryot which crop is likely to be most profitable to him. Such a statement if it is to be exact must entail a comparison between the profit obtained from given areas under different crops. Each estimate -of profit must rest upon three figures, the ryots' selling price, the ryots' cultivation expenses, and the production of a given area sown under a particular crop. The first figure we consider to be unobtainable regularly; the second is -and will always be a matter of dispute; the accuracy of the third is doubtful owing to the Agricultural Department's inability at present to extend their cropcutting experiments. We do not therefore consider that any regular figures of value can be obtained for this purpose.
33. But it might be intended without taking into account estimates of actual profit, to base such a statement upon the information received of probable movements of prices. We do not however, consider that this information would be -of such a nature as to enable Government safely to give this advice to the ryot.
34. It will be of interest to know and to publish a table giving the index numbers of wholesale prices in Madras of different crops, so that the comparative fluctuations in the prices of industrial and food crops during the past years may be seen and some idea gained which crops are tending to become more and which less profitable to grow. Such tables are being made out by the Government of India, Statistical Department, which is of course considerably better equipped to overcome the mathematical problems involved. A table of this kind has already been published for Calcutta in the Indian Trade Journal for 15th October 1931, page 175, and the Director-General of Statistics proposes to make out a similar table in that Journal for Madras. Such a table need not therefore be prepared in this Presidency, but the Statistical Officer may consider whether any other similar tables should be made.
35. The Distribution of Trade.-Doctor Meek lays stress on the necessity for a revival of the statistics of rail and river borne trade. The Government of India consented to revive them: but have postponed their re-introduction until the return of normal financial conditions. This Government may therefore await the re-introduction of these statistics by the Government of India.
36. Statistics collected by the Agricultural Department.-Doctor Meek strongly urges that the forecasts of outturns and the figures of yield and production of crops should be still prepared in the Agricultural Department under the direct supervision of the Director of Agriculture who should himself give his opinion on the crop estimates. As a result of this opinion, we have not considered the transfer of the Agricultural Statistics to the Board of Revenue, although most of the statistics originate from subordinate officials of the Revenue Department. In the preparation of the tables of yield and production in the season and crop report most of the agricultural statistics sent annually by the Collectors are used, either as data for the preparation of other tables or as a check; and the annual statistics of the area under each crop are checked with the figures of area in the forecast reports. Since therefore the majority of the statistics collected by the Agricultural Department are interdependent and the remainder are only of agricultural interest, we recommend that the Agricultural Department should continue to collect all the statistics now collected by it except the prices, which will be collected by the statistical section of the Board of Revenue. The Agricultural Department should prepare the material for the season and crop report; and the actual report should be published by the Statistical Officer (in whatever department he may be), who should add to the present publication a statement of all the prices collected, including in it the annual statement of retail prices now published separately by the Board of Revenue. He should be responsible for writing the foreword to the report, in the form of a short note on economic and agricultural conditions, the agricultural portion of the note being subject to the approval of the Director of Agriculture and the whole note being, when the Statistical Officer is under the Board of Revenue, subject to the approval of the Commissioner of Land Revenue and Settlement. He , or when he is transferred to the Board of Revenue, his successor in the Agricultural Department, should also supervise the collection of the forecast reports and the statistical agricultural returns by the Agricultural Department in the districts and in its office, and generally direct the statistical section of the Director of Agriculture under his control.
37. A considerable amount of research is necessary upon the agricultural statistics, which the Statistical Officer or his successor in the Agricultural Department would be expected to perform. For instance, Dr. Meek has asked that all the figures of outturn from the taluks for the last twenty years should be looked into so that by taking the average outturn in each place for these years and comparing these averages with the normal 12 annas, it may be seen in how many places the outturn of a crop is being generally over or under estimated.
38. Industrial statistics.-We consider that it matters little which department collects the industrial statistics at present obtained by the Director of Industries. But in the future many more industrial statistics may have to be collected; and conformably with the principle that each department should obtain its own intelligence, we recommend that the statistics now collected by theDirectnr of Industries should remain in his department.
39. It will be advisable here to recapitulate the duties which we consider should be performed by the Statistical Officer. While there is only one Statistical Officer, and he is under the control of the Director of Agriculture, he will be in charge of the collection of the statistics sent in to the Agricultural Department, and will start as much of the new kind of statistical work which has been described in paragraph 5, as is possible. For this purpose he should be able to ask for and obtain information collected by the other departments. If he is able to do sufficient of this work to make the collection of wholesale price statistics of any advantage, he will also do the preliminary work to enable their collection to be made. (See paragraphs 16 and 17.) In addition he will do, as head of the Agricultural 'Intelligence' section, what research work is necessary on the agricultural statistics (see paragraph 37) and will assist the Board of Revenue in his personal capacity, when required, in the working out of the procedure for the collection of the price statistics in their new form; and when supervising the collection of agricultural statistics in the districts, he will be able to advise the Revenue Department after examining the recording of retail price statistics in the various price-recording stations. We recognize that, as he will have no increase of clerical staff, much of this work will not be done. We, therefore, urge the creation of the new appointment in the Board of Revenue as soon as practicable.

When this appointment is made, the Statistical Officer under the Board of Revenue will do the full work described in paragraph 5 above, as well as being in charge of the collection of the statistics sent to the Board of Revenue. He will not be a regularly touring officer, since his main work will be the co-ordination and preparation of economic information. He will be able to obtain -any statistical information which he requires from the departments, and he should advise those departments on the best technical methods of collecting and presenting their statistics. He will obtain the material for the Season and Crop report from the officer in charge of the Statistical section of the Director of Agriculture, and after adding relevant statistics collected from other departments, presenting all the statistics in the most intelligible way and writing a general introduction, will publish an annual report on the economic -and agricultural condition of the Madras Presidency, under the authority of the Commissioner of,Land Revenue and Settlement.
40. Detailed administrative arrangements and the cost to Government-(a) The Statistical Officer.-Under the temporary arrangement suggested, the only -cost will be the cost of the new Statistical Assistant's training for a few months in Dr. Meek's office; at the most, Rs. 2,000.

Under the permanent arrangement suggested for the future, it should be possible to obtain a suitable Statistical Officer on the pay and travelling allowarrce of a Deputy Collector. This appointment will therefore result in a recurring cost of about Rs. 7,800. The new officer will not tour regularly. The expenses of his travelling allowance should therefore not be large. The cost of his training in Dr. Meek's office for some months will, as has been suggested, be -about Rs. 2,000 . This expenditure would recur on the appointment of a new incumbent, and would probably be incurred more frequently if it is decided to appoint an official of the Revenue Department and not an outsider; though in any case the minimum period of appointment should be three years and the total recurring cost would be at the most. Rs. 666 per annum. The cost of two peons for the Statistical Officer will be about Rs. 288 per annum exclusive of travelling allowance.
(b) The Statistical section of the Board of Revenue.-The staff at present working in the Board of Revenue's Office on statistics is as follows:-

One upper division clerk on Rs. 65-4-120 who does famine work and the season reports. Two lower division clerks on Rs. 40-21-80 who maintain the rainfall and prices statistics.

The Board of Revenue are unable to take away the famine work from the upper division clerk. We recommend that when the Statistical. Officer is appointed under the Board of Revenue, he should start without extra clerical =staff, but should make recommendations after a short time to the Commissioner
of Land Revenue and Sellement, what extra staff, if any, he requires. It should at the beginning be very small; but we envisage later on the development of this section until it is in the charge of a separate Superintendent. This development will depend upon the work which the section is called on to do which will in its turn depend upon the uses which the various departments of Government wish to make of the Statistical Officer. When the officer is appointed the section will be doing a double work; helping him in the work of co-ordination and presentation of statistics, and collecting the statistics, as now, which are sent to the Board of Revenue.

If the reforms in the collection of price statistics which have been suggested, are to be put info force, some extra work will be required in the Board's office, at once, while the Statistical Officer is still under the Director of Agriculture. This will clearly have to be done without increase of staff, if possible.
41. If the Statistical Officer under the Board of Revenue should require at the beginning one extra lower division clerk, the recurring cost will be about Rs. 660 . The cost of publication of the new material which he will add to the Season and Crop report will be negligible. We do not take into account the cost of the possible development of the section, as such new commitments do not automatically follow from these recommendations, but will depend upon the use which Government wish to make of the Statistical Officer. Meanwhile if the suggested reforms in the price statistics are put into operation, there will be a recurring expenditure of about Rs. 135 on new registers: but one may set off against this the discontinuance of printing the old registers.
42. (c) Statistical sections of the Agricultural Department and Department of Industries.-The establishments in these departments doing statistical work (one Superintendent and four clerks in the Agricultural Department, and one clerk in the Department of Industries) will be doing the same work, and may remain at the same strength as at present.

Even while the Statistical Officer is still under the Director of Agriculture and is attempting to start some of the new statistical work, we cannot, for financial reasons, contemplate any addition to the staff in the Agricultural Department for this purpose.
43. The preparation of an index number of the cost-of-living. -The Government requested the Committee to consider whether it would be possible to provide evidence for varying a proportion of Government servants' pay by producing an index-number of the cost of living for those classes to which Government servants belong. We consider that it is only possible to produce an unsatisfactory approximation to a true figure, that the possession of figures which can be attacked at every point is likely to be more of an embarrassment than an advantage to Government and that the results obtained will not justify the labour involved. We therefore recommend that no cost of living index number be prepared.
44. Summary of the recommendations.-(1) That as soon as financial conditions improve, a Statistical Officer should be appointed under the Commissioner of Land Revenue and Settlement responsible for the co-ordination of the statistics collected by all departments, and for providing all economic and statistical information required by Government. That the Statistical Officer should be recruited not necessarily from among Government servants, and that he should be trained for some months in the office of the Director-General of Commercial Intelligence and Statistics, Calcutta. (Paragraphs 4 to 7.)
(2) That the statistical work in each department should be developed separately from the other work of the department; and that ultimately each department should have its own intelligence section. (Paragraph 3.)
(3) That retail prices of food-grains and salt should be recorded and reported once a week in price-recording stations and converted into terms of rupees per imperial maund. (Paragraphs 8-14 and 21.)
(4) That the prices now published weekly in the Fort St. George Gazette shouid continue to be published in the same manner : but that there should be nomonthly publication of prices. (Paragrapk 22.)
(5) That wholesale prices of the main agricultural products in the districts sebould be obtained from the Imperial Bank, and possibly those for Madras from the Madras and Southern India Chambers of Commerce. (Paragraphs 15 to 20.)
(6) That the retail and wholesale prices should be published with the Season and Crop report annually, under the direction of the Statistical Officer. (Paragraph 36.)
(7) That the Statistical Officer should obtain for Government all information which they require about world markets and the probable prices of agricultural products, from the Director-General of Commercial Intelligence and Statistics and other sources. (Paragraphs 23 to 29.)
(8) That all statistics (except those of prices required by the DirectorGeneral of Commercial Intelligence and Statistics) collected by the Agricultural Department and the Department of Industries should continue to be collected by those departments; and that the Agricultural Department should continue to prepare the material for the Season and Crop report. (Paragraphs 36-38.)
(9) That since owing to the present financial conditions it will not be possible to appoint a new Statistical Officer, the following temporary arrangements should be made. In order to fill the vacancy which will occur in the post of Statistical Assistant to the Director of Agriculture in next October, a man should be selected who will ultimately be transferred, provided his work is satisfactory, as Statistical Officer under the Board of Revenue; that before he joins his post he should be given a few months training in the office of the Director-General of Commercial Intelligence and Statistics and that in choosing him Government should bear in mind the qualifications which we have suggested to be desirable. This officer, as well as supervising the collection of the agricultural statistics in the Agricultural Department will start as much of the new statistical work as he is able, without staff. If he is not given preliminary training, then we recommend that no part of the new statistical work be attempted until a new officer can be appointed under the Board -of Revenue, and that that officer should not be chosen until that appointment is to be made. (Paragraphs 4, 5 and 6.)
(10) That no dissemination of statistical or economic information to the ryot should be attempted. (Paragraph 22.)
(11) That no successful attempt can be made to obtain regular figures of the ryots' selling price of grain owing to the varying methods of sale which will make the figures statistically incomparable and owing to the difficulties of their collection; and that therefore no regular statistics can be collected which will give to Government any information either upon the possibility of starting new marketing systems or to make it possible to determine the actual profit to the ryot from a particular crop sown on a particular area. (Paragraphs 30 and 32.)
(12) That the question of obtaining statistics of rail-and-river-borne trade need not be considered now, since it is being examined by the Government of India. (Paragraph 35.)
(13) That no index-number of the cost of living should be prepared, since no satisfactory result could be obtained. (Paragraph 43.)
45. We desire to express our appreciation of the great help given to us by Doctor Meek. His expert advice was invaluable to us and enabled us to make proposals which while being acceptable from his point of view will also, we trust, ie equally acceptable to the Government-of Madras.

We also desire to state, that but for the care and insight shown by Mr. Trevelyan into the somewhat difficult subject, with which we have dealt,-an insight remarkable in so young an officer-our labours would have been far more difficult than They have been. We must express our great appreciation of his work.
L. B. GREEN.
D. ANANDA RAO.
C. A. SOUTER,

Chairman.
H. TREVELYAN, Secretary.

#  

REVENCE DEPARTMENT

G.O. No. 1000, 11th May 1932<br>Priceo-Statintics-Co-ordination-Committes-Report published.

## Order-No. 1000, Revenue, dated 11th May 1932.

The Committee which was appointed in G.O. No. 2002, Revenue, dated 22nd September 1931, to advise the Government on the recommendation of the Economic Depression Enquiry Committee that a bureau of statistics should be constituted, has submitted its report. The report will be published for general information.

Orders on the recommendations contained in the report will be issued in due course.

## (By order of the Governor in Council)

## J. A. Thorne, Secretary to Government.

To the Board of Revenue, Land Revenue and Settlement.
"the Director of Industries.
", the Director of Agriculture.
" the Accountant-General, through Finance Department.
", the Members of the Committee.
" the Director-General of Commercial Intelligence and Statistics, Calcutta, with C.L.
"Dr. D. B. Meek, O.s.E., M.A., D.B.c., through the Director-General of Commercial Intelligence and Statıstics, Calcutte, with C.L.
" the Secretary, Economic Depression Enquiry Committee, Trivandrum.
", the Becretary, Economic Development Committes, Cochin Government, Trichur.
"the Public, Development and Finance Departmente.
"the Superintendent, Government Press, for publication and supply of the report to the authoritiew eligible to get papers placed at the disposal of the Prea.

## GOVERNMENT OF MADRAS

## REPORT OF THE POWER ALCOHOL COMMITTEE 1939



MADRAS
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PREGS

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## G9

## Report of the Power Alcohol Committee.

Introduction.-The question of production of power alcohol and its use as motor fuel has been attracting a great deal of attention in India in recent years. Some of the main reasons for this increased interest in the subject are (a) the rapid development of the sugar industry in this country in recent years and the accumulation of large amounts of molasses, amounting to anything between 400 and 500 thousand tons, the disposal of which, preferably at a profit, has been presenting a serious problem to all concerned; (b) the imperative need for providing an outlet for the alcohol manufactured in the present. distilleries, now that the policy adopted by several Provincial Governments forbid the manufacture and sale of alcohol for potable purposes within specified prohibited areas; and (c) the desirability of developing an indigenous supply of motor fuel as an alternative to petrol which is produced in this country to the extent of only about 15 per cent of thetotal consumption in India.

Committees for investigating the problem of power alcohol production have already been appointed by the Bihar, United Provinces and the Bombay Governments, but their reports have not been released yet for publication. The Government of Madras appointed recently (G.O. No. 283, dated 11th November 1938) \& Committee for the purpose consisting of the following gentlemen:-
(1) Mr. D. N. Strathie, I.C.S., Member of the Board of Revenue and Commissioner of Excise and Separate Revenue (Chairman).
(2) Mr. L. B. Green, m.b.e., Director of Industries, Madras.
(3) Sri N. S. Varadachari, m.A., B.L., Parliamentary Secretary to the Hon'ble the Minister for Agriculture and Rural Development.
(4) Dr. B. B. Dey, Professor of Chemistry, Presidency College, Madras (Secretary).
(5) Dr. T. R. Seshadri, m.A., Ph.D. (Manch.), F.I.C., Professor of Chemistry, Andhra University.
(6) Dr. S. V. Ananthakrishnan, M.A., PH.D. (Lond.), Professor of Chemistry, Annamalai University.
(7) Dr. C. N. Acharya, m.sc., PH.D. (Lond.), A.I.c., A.T.c., Indian Institute of Science, Bangalore.
(8) Mr. W. W. Ladden, Managing Director, Messrs. Simpson \& Co., Madras.
(9) Mr. C. Mainprice of Messrs. Parry \& Co., Ltd., Madras.
(10) Sri D. L. Narasimba Raju, b.A., b.sc. (Lond.), a.G.G.I., m.L.A., Managing. Director, The Andhra Engineering Company, Ltd., Vizagapatam.
The Committee was requested to make definite recommendations on the following points with special reference to the circumstances existing in the Madras Presidency :-
(1) The question of production of power alcohol from molasses.
(2) The best method of manufacture of power alcohol.
(3) The best method of manufacture of petrol alcohol mixture.

The Committee met five times in Madras, viz., on November 24th, December 5th, 12 th and 13th and January. 12th. At these meetings the literature on the subject collected already by Government as well as that contained in the report of the Bihar and. United Provinces Government Committee and the Bombay Committee, copies of which were available for private reference only, and also further data and information supplied by inembers of the Committee were considered in detail.
I. Definition of power alcohol.-Alcohol of 95-96 per cent strength which has so far been used in India, possesses several defects as a source of power, when mixed with petrol, not the least of which is the ease of separation of such mixture into two layers. It is now generally admitted, therefore, that only absolute alcohol, that is, alcohol free from water, could be used satisfactorily for blending petrol as motor fuel. The Committee considered that the term power alcohol should be restricted to alcohol containing not more than 0.5 per cent by volume of water.
II. Use of power alcohol as motor fuel.-The experience available in India on the use of aleohol as motor fuel is at present very limited. The Committee examined as witness Mr. R. Anantha Subramaniyam, Secretary of the Mysore Sugar Company, Ltd.,
who furnished much valuable information on the actual expenses incurred in the prodiotion of 96 per cent aloohol, based on three years experience in the factory at Mandya. Alcohol of $95-96$ per cent strength nnmixed with petrol, has been used by the Mandyo Sugar Factory with satisfactory results in the running of tractors, lorries, buses and even cars which are provided with special readjusted engines. Nixtures of fol parta of suc! alcobol and 40 parts of petrol have also been used for running buses at hangalore withul: any adverse effects on the car engines being observed (see Appendix A).

In Mandalay (Burma), Charlton, J. Charlion (1937)-" Power and Industrial Alcuht —Pussibilities of manufacturing in Burma."-Agricultural Survey No. 24 of $19: 16$ of the Department of Agriculture, Burma, obtained satisfactory results with the usual typee of engines by the use of petrol alcohol blends containing up to 25 per cent of absolute slcohol.

The very extenaive experiments which have been carried out in the last four or five years in Europe and America have, however, conclusively proved that petrol alcohol blepds could be successfully used for operating the present types of cars and buses without making any alterations or adaptations in the engines or carburettors suljoct to the condition that the alcohol content did not exceed 25 per cent of the blend. luelying on the experiments reported in Hubendicks Spiritus Motiren, the Committee slso believee that the hygroscopicity and consequent danger of separation of alcohol and petrol have been greatly exaggerated.
III. The Committee is unanimously of opinion that the manufacture of power alcohol and its admixture with petrol would in the present state of the sugar industry in India be 'an economic proposition, and that it should be encouraged and developed by the Government in national interests. It supports the proposition by the following arguments :-
(a) It is desirable to render the country more self-sufficient even for ordinary times and particularly in the event of war. The possibility of the exhaustion of the present petrol supplies of the world cannot also be completely ignored.
(b) An outlet must be found for the large quantities of molasses which are not only going to waste but the disposal of which is now a most serious problem.
(c) It is desirable, particularly in the Madras Presidency, to develop further the sugar industry. Madras now produces only 33,000 tons of sugar; out of its present consumption of 100,000 tons. This help to the sugar industry will be specially necessary as " Prohibition" is extended and the present use of molasses to make arrack becomes impossible.

The Committee feels that even if it is eventually found that power alcohol cannot be marketed at the same price as petrol, the Government of India should, in national interests, be urged to face some loss of revenue and to levg a lower duty on power alcohol than on petrol.

The Committee is satisfied from experience gained in other countries and from the results of such experiments as have been carried out in India, that absolute alcohol can be mixed in a satisfactory manner with petrol so as to be nsed in ordinary cars without any alterations or intricate adjustments being necessary.

The Committee has no hesitation in recommending that legislation to enforce such mixing is justifiable in national interests.
IV. Raw materials.-The terms of reference to the present Committee restrict them to an examination of the manufacture of power alcohol from molasses alone. In view, however, of the shortage of molasses available for this purpose in the Presidency, the Committee also considered incidentally the possibility of using other raw materials such as (a) waste jaggery, (b) cane tops, (c) sugarcane, (d) palmyra and coconut juice, (e) sweet potatoes, ( $f$ ) Mohua fowers and ( $g$ ) cashewnut fruit for the manufacture of power alcohul. A note on this subject has been submitted by a member of the Committee (vide Appendix B). The Committee considered the matter carefully and came to the conclusion that owing to the insufficient and irregular supply of materials and their bigh costs, none of these commodities could be considered as primary raw materials for the produc. tion of power alcohol in this Presidency, although, in some localities and in some particular seasons when they could be obtained cheap, some of these materials might be used as supplementary sources for the manufacture of power alcohol. Under the present circunstances, therefore, the location of the power alcohol distilleries must inevitably depend on the supplies of molasses.
V. Process for manufacturing power alcohol.-A note on this subject prepared by one of the members of the Committee is given in Appendix C. The Committee considered the relative merits of the different processes in use and came to the conciusion that the Azeotropic method using benzene, especially Melle's Fourth Technique; was suitable for the larger distilleries with a production capacity of about 1,000 gallons per day; whilst in the case of smaller distilleries, especially in areas where gypsum was available, the gypsum method of dehydration of alcohol should prove equally economic and efficacious.
VI. Cost of manufacture.-The Committee devoted considerable attention to the question of cost of manufacture of power alcohol in distilleries of different sizes. At present the Mandya Sugar Factory is the only concern which is manufacturing absolute alcohol in India, but as the necessary equipment for the above purpose has been obtained and set up only very recently, it wuold be sometime before reliable figures for the cost of production of absolute alcohol would be available. The above factory has a production capacity of about 1,500 gallons per day and worked last year for nearly 220 days and the cost of production of 96 per cent alcohol has been found to be about 5 annas 6 pies per gallon. If we add to this interest at 6 per cent per annum on the capital ( 10 pies per gallon), which was not included in the calculation and also the cost of dehydration (one anna per gallon), the total cost would come to about 7 annas 4 pies per gailon of absolute alcohol by the méthod of manufacture in two stages Melle's First Technique adopted at. this factory.

An estimate of the cost of production in a factory of moderate size with an output of 400,000 gallons of alcohol per annum working on Melle's Technique is given in Appendix D.

The Committee also discussed at length estimates for the cost of production of absolute alcohol in smaller distilleries with capacities of about 800 gallons per day, the absolute alcohol being made directly from the mash by the latest improved processes. An estimate of the cost of production in a factory producing 135,000 gallons ( 900 gallons per day for 150 days) is given in Appendix E. The conclusion arrived at was that even in such cases the cost of production inclusive of interest and capital should be about 7 annas 7 pies per gallon.
VII. Location of factories.-(1) The Committee considered in detail the question of the types of distilleries to be recommended and their location, bearing in mind the particular conditions existing in the Madras Presidency. Considering the fact that the cost of production would be materially reduced in the larger distilleries, and that the sugar producing areas are more or less equally distributed in the northern and southern halves of the Presidency, the Committee felt that the ideal arrangement would be to start two main distilleries one to meet the power alcohol requirements of the northern half and the other that of the southern half of the Presidency.
(2) The Madras Presidency consumes at present about 17 million gallons of petrol, and even assuming that Government fixed a ratio of only 15 per cent of alcohol in the proposed petrol alcohol blends, the total requirements of alcohol for this province would amount roughly to 255,000 gallons, for producing which about 42,500 tons of molasses would be necessary, calculating an average yield of 60 gallons of alcohol per ton of molasses. The amount of molasses produced in the sugar factories operating in this Presidency comes at present barely to about 15,000 tons and of this amount some five to six thousand tons are being actually utilized for other purposes, e.g., for the preparation of potable alcohol, for curing tobacco, for use as fertilizers, etc. The surplus of molasses available for manufacturing power alcohol would thus not exceed 10,000 tons at present. This amount moreover is distributed in small quantities only among the different factories scattered throughout the Presidency, so much so that the amount available at any one centre for the purpose of starting a power alcohol distillery of a moderate size is quite inadequate.
(3) In view of these facts the Committee was inclined to be rather sceptical in the beginning with regard to the possibility of making this Presidency self-contained in the msitter of production of power alcohol. The Committee feels, however, that the situation would alter in a few years and that it would be reasonable to expect that it woald be possible to start such large distilleries in the near future. The production of sugar in the Bezwada area, especially near Vuyyur, is likely to undergo great expansion in the coming year, in which case this sugar factory alone might produce sufficient molasses to run a power alcohol distillery on such a scale as would enable the whole of the alcohol requirements of the northern parts of the Presidency being supplied by this source.
(4) In the south, the factory at Nellikuppam is at present using almost all its molasses for the preparation of potable spirits, the surplus available being extimated at hardly 1,000 tons per annum. If in accordance with the policy of the present Government " Prohibition" be extended to the southern areas, this factory shmuld alune be while to supply almost all the power alcohol requirements of the southern districts of this Presidency. It must be sfated, however, that the requirements of the town of Madras and the adjoining areas which consume about five million gallons of petrol, i.e., about a third of the total consumption of the Presidency, and need about $750,(4 \mathrm{~m})$ gallons of alcobol at 15 per cent blending and hence about 12.500 tons of molasses, must have to be met from outside sources. Considering the fact that the Presidency is at present producing not more than 30 per cent of its requirements of sugar and in view of the fart haut the Government is making strenuous efforts to increase the area under sugar, it may be possible at a later stage to make the whole of the alcohol reguired for this I'residency Irom the molasses produced within the Presidency itself.
VIII. Establishment of small distillerics.-(1) The facts narrated above apprar therefore to rule out the possibility at the present time of starting large scale power alcohol distilleries at only a few specified centres and the Committee passed on to a consideration of the feasibility of starting smaller distilleries at certain favourably siluated centres for meeting the power alcohol requirements of the surrounding localitits, the figures given in Appendix E being accepted as the basis for calculation of the cont of production of a gallon of alcohol in such factories. For this purpose the Madras I'residency was divided into a number of areas comprising contiguous districts as shown in the table in Appendix $F$ and the supply of molasses and the power alcohol requirements of each area were examined separately.
(2) Area No. 1 comprising East and West Godavari and Vizagapatam, produces more than enough molasses to meet its immediate requirements of power alcohol. 'Whis is scattered, however, among the five factories working in this area, the distance between them being such as would render the collection of all the molasses produced in this area at one centre for conversion into alcohol uneconomical. It was deemed possible, however, for one of the larger factories, e.g., the refinery at Samalkota, to collect the molasmes from the neighbouring factories and to start a distillery on a sufficiently large acule for meeting the whole of the requirements of power alcohol of this area. The Committes is of opinion that the Government should later, i.e., in the light of future developments in Hospet, etc., invite tenders from one or more distilleries for the production and supply of about the required quantity of power alcohol in area No. 1 at a price to be fixed acrording to experience gained in the working of the power alcohol factories elsewhere.
(3) As regards area No. 2 comprising Kistna, Guntur and Nellore, the Committee feit that much would depend on the satisfactory working of the Vuyyur Co-operation and Credit Society. This factory has not so far fulfilled the expectation which had been raised, the actual cane crushed last season being not even a quarter of the total crushing capacity and the season extending over fifty days only. It may be reasonably boped, however, that the factory would be able to crush about 65,000 tons of cane in the present season. This would correspond to a molasses production of abcut 2,400 tons, an amount which would be sufficient for supplying a large part of the power alcohol requirements of this area. Nellore district could be omitted in the first instance if the supplies were inadequate or the proportion of alcohol in the mixture could be suitably reduced.
(4) Area No. 3 comprising Bellary, Cuddapah, Anantapur and Kurnool seems at present to be the most favourably situated for the production and use of power alcohol. A large part of the power alcohol requirements for this area could be covered by starting a distillery at Hospet dealing with about 2,000 tons of molasses per annum. ${ }^{*}$ The isolated position of Hospet and the impossibility of its interfering with future developments in other areas constitute one of its important advantages and the Committee recommends therefore that this area might be selected for notification by Government for the operation of the Power Alcohol Act as soon as it becomes Law.
(5) Area No. 5 has, as mentioned already, a large supply of molasses at Nelliknppam, but this supply is at present not available for purposes of making power alcohol. With the extension of prohibition, however, it is expected that the whole of its molasses production would be available for making power alcohol, and this centre would thus, in the course of time, be able to supply power alcohol not merely for its own area but perhaps for all the southerr districts of the Presidency.
(6) Area No. 6 comprising Salem, Coimbatore and the Nilgiris, has at present no adequate supply of molasses of its own. But the suggestion has been made that a part of the surplus alcohol produced in the Mandya Sugar Factory could conveniently be
diverted to meet the power alcohol requirements of the contiguous districts. The Committee was given to understand that for some years to come there might be an excess of about 2,000 tons of molasses at the Mandya factory which would be beyond the requiremenis of the Mysore State. It thus seems possible that the surplus production of Mysore might be used for meeting the needs of Salem district which requires 115,182 gallons of power alcohol. If this materializes the Committee would recommend that this district be included in the area to which the proposed Act should extend together with the Nilgiris if more molasses were available.
(7) As regards the other areas, the Committee is of opinion that the present local resources do not warrant the starting of power alcohol distilleries in the near future in these areas. The cases of these areas might be re-examined later on in the light of further developments of the sugar industry which might take place or in the light of alternative cheap and convenient sources of raw materials for the production of power alcohol, which might become available in those areas.
IX. Management of Factories.-The Committee believes that the cost of production would be lowest if the proposed power alcohol distilleries were attached to the existing sugar factories, and were run by the managements of the latter. The sugar manufacturers should, therefore, be encouraged by all means to start the distilleries themselves and it is only when private enterprise is not forthcoming or is found to be inefficient that the possibility of the running of distilleries by Government may be considered. The manufacture of such power alcohol by private agencies, should, of course, be subject to excise regulations and under the control of the Excise Department of the Government. The Government should enter into a contract for the purchase of a stipulated quantity of alcohol per annum at a price fixed by Government for each distillery, depending on the location of the factory and on such factors as the price of labour, fuel, etc. The quantity so purchased by Government will be made over by the factory to certain specified petrol dealers according to the instructions of the Government. Factories may be permitted to produce alcohol in excess of Government requirements and to sell it to private parties in accordance with such rules and regulations as may be framed by Government for the purpose from time to time.
X. Manufacture of alcohol petrol mixture.-Although blends containing 25 per cent: absolute alcohol have been employed with success in running motor vehicles without any alteration or adaptation of the engines being found necessary, the Committee deems it advisable in view of the shortage of molasses and other reasons to make a beginning with 10 to 15 per cent of power alcohol in those areas where power alcohol distilleries would be permitted to be started, and the Power Alcohol Act enforced.
XI. Denaturation of power alcohol.-The Committee paid considerable attention to the question of suitable denaturants for power alcohol to make it unfit for human consumption. The suggestion that petrol itself might serve as a sufficiently satisfactory denaturant, obviating the necessity for the addition of a second denaturant, was carefully examined in the light of experiments carried out in the laboratories of the Excise Department and elsewhere. It was found that the extraction of alcohol from such alcohol petrol blends by means of water was not difficult, the small amounts of petrol in the aqueous alcohol layer being easily recovered by a single distillation. The addition of a denaturant other thar petrol was therefore considered necessary and after full discussion, the Committee decided in favour of pyridine ( 0.5 per cent on the alcohol) as a good denaturant for the purpose. (One of the members of the Committee prefers wood-spirit to pyridine on the ground that pyridine is more expensive and that it has to be imported.) Unless serious abuses are subsequently brought to light, the Committee considers this to be sufficient.: The power alcohol should be denatured at the distillery itself and then transferred in sealed vessels to the petrol depots and the blending carried out under excise supervision.
XII. Legislation.-(1) The introduction of power alcohol into popular use could bebest secured through the blending, by statute enforced, of petrol with alcohol in certain definite proportions (sea paragraph $X$ ) and in certain definite areas to be notified by Government from time to time.
(2) The purchase from Government by the petrol distributing companies of a quantity of alcohol in proportion to the sales of petrol in the areas notified by Government, and the mixing of such alcohol with petrol in the proportion prescribed by Government have to be enforced by a special Act.
(3) Government will undertake to purchase from the power alcohol factories a stipulated quantity of alcohol at a price fixed for the year, and will sell the same to the petrol distributing companies in the notified areas at prices fixed by Government with

## 6

reference to the local price of petrol in those areas. The margin of profit, if any, in thome transactions will be credited by Government to a separate fund which might be used for the purpose of developing the power alcohol industry in the Province.
(4) For ensuring the success and popularity of the scheme it is necessary that Government should exercise some control over the retail prices at which the alcohol petrol mixtures are sold to the public in the different notified preas.
(5) The work of supervision, control and enforcenent of the rules and regulations framed by Government under the Power Alcohol Act should be entrusted to the Excise Department, a special power alcohol branch being created if found necessary.
XIII. Our conclusions therefore are that the mixture of alcohol with petrol for use in motor vehicles is a practical proposition, that it is desirable that Goverinnent whould take steps to make the use of such mixture compulsory, that in time this Presidency may be able to supply all its requirements of absolute alcohol and that a beginning may be made in the areas suggested and that further steps be taken in the light of the experience gained there and by the Mysore Government at Mandya.
B. B. DEY, Secretary.
D. N. STRATHIE, Chairman.

## APPENDLX A.

## Note submitted by Mr. Ananteasubrahanlag.

1. Cost of production of power alcohol.-We must first decide what we mean by the expression - power alcohol'. The Government of lndia, in their resolution of 1927 defined industrial alcohol as spirit of the strength of $55^{\circ}$ O.P. and above. The Joint Power Alcohol Committee set up by the Governments of the United Provinces and Bihar defined power alcohol as dehydrated ethyl alcohol of at least 99.4 per cent by volume.

In Mandya we have installed a dehydrating column and have just been able to produce dehydrated etingl alcohol of 99.4 per cent strength. It is proposed to atilize this alcohol for purposes of an admixtare with petrol to be sold as motor fuel.

As regards cost of manufacture of power alcohol we have, in our letter of August 1937, mentioned the cost of production. "We have no information on the cost of production of absolute alcohol, but the manufacturers of the plant claim that absolute alcohol can be produced at a cost of $5 \frac{1}{2}$ annas per galion after paying for molasses at the rate of Rs, 7 per ton and assuming that the distillery is worked as an adjunct to an existing sugar factory. In this connexion, it may be stated that the entire question of the production of power alcohol from molasses has recently been investigated by a joint Committee appointed by the Governments of the United Provinces and Bihar. It is understood that according to this Committee, the cost of production of power alcohol will be in the neighbourhood of - to 7 annas per gallon." As stated, we have as yet no definite data regarding cost of manufacture of absolute alcohol. It should be possible for the Mysore Sugar Company, to arrive at some definite figures on this point, in a couple of months' vime.

The main point with reference tc cost of manufacture is the cost at which molasses can be obtained for the parpose of being converted into absolute alcohol. In Mandys, we have a surplus of molasses. We reckon the value of molasses at Rs. 7 per ton, which represents its equivalent fuel value, if molasses, instead of being used for manufacture of absolute alcohol, is burnt under the boilers. Based -on this calculation, the estimated cost of production for spirit of 96 per cent strength has been in the neighbourhood of $5 \frac{1}{2}$ annas per gallon. We reckon that it would cost an anna more for deliydration purpose so that the cost of manufacture of absolute alcohol would be between 6 and 7 annas per gallon.
2. Trials made at Mandya with power alcohol as fuel.-As already stated above, we have just begun to produce absolute alcohol and we have not yet started experiments with the use of this alcohol. We have, in Mandya, gained some experience with the use of power alcohol of 96 per cent strength, both by itself and also as an adinixture with petrol. On our locomotives and tractors, which have been - pecially designed to run on power alcohol, we have experienced no trouble and they have given entire satisfaction. On the motor lorries also, which have high compression engines, viz., Fords and Internationals which have high altitude pistons, we have had very satisfactory results with the use of power alcohol. In regard to experiments conducted on pleasure cars, from experience we have found that the engines of these cars require certain adjustments in order to make them adaptable for running on alcohol of 96 per cent atrength.

The main conclusion we have arrived at is that 96 per cent alcohol does not form a stable mixture with petrol in all proportions. Experience has shown that an admixture of alcohol of less than 60 per cent with petrol does not make the mixture a stable one. It is understood that in Brazil mixture of alcohol with petrol is stable in all proportions.
3. How much excess of molasses over local requirements would be avaibable for sale from the Mandya factory.-The factory at Mandya would normally produce about 10,000 tous of molasses per annum, if the present rate of output of sugar is maintained. We have bult up a demand for the consumption of products obtained out of about $3 / 4,000$ tons of molasses and with a view to utilize the excess quantity that is now available, it is proposed, with the co-operation of Government, to produce absolute alcohol, which under legielative enactment will have to be compulsorily mixed with petrol and sold as motor fuel. The normal sale of petrol in the Mysore State is $2,700,000$ galluns per, annum, and on the basis of an admixture of 15 per cent alcohol, we expect an out-take of 350,000 gallons of absolute alcohol which would account for another 5,000 tons of molasses; i.e., about 2,000-. 1,000 tons avadable for a year or two; practically no surplus later. Capacity 1,500 gallons for 24 hours expect to work 320 days.

## APPENDIX B.

## Possibilitirs of raw matralals for production of powre alcohol.

For power alcohol to be a success, the cost of the alcohol to the consumer should be the same as that of petrol. It may be necessary therefore in attempting to promote this basic industry to fird ways and means of obtaining the above condition (1) by procuring suitable cheap raw materials, (2) by cutting down the cost of production, (3) by removing partly or wholly the tax that is now levied on olcohol intended for burning purposes, (4) by Government's subsidy. In the present note the possibihties of available cheap raw materials for power alcohol production are considered. The question of reduction of duty or of Government subsidy may have to be considered from the results of
this enquiry.

1. Nolassen.-Owing to the conditione prevalent in India, the current price of molumee in very fon and is practically nil near the sugar factories. The Indian Molames Company, Calcutha, paid 1 anne 5 pies per maund ( 82.7 lb .) of molassee during $1936-37$ meason and eren when freight is peid for transport, owing to the concessions offered by the railway companiem, the increase in the coat is not rary considerable. But it should be remembered that the price of this material may go up in courno of time. According to the rough estimates available, only 13,010 tons of molasses are produred in thie Presidency and of these nearly 5,000 tons seem to be used for the production of sloobolic beverage. The remsining quantity can give as only 500,000 gallons of alrohol, whereas much more (total ebont 24 lakhs galions) will be needed, if oniform distribution of power alcohol should be as ailable throughout the whole Presidency. The quantity of molasear can be expected to increase in tie near future to some extent due to the increased production of sugar in this Presidency and to a further astant due to the introduction of prohibition. But still there is a large need for the developanent of our resources for power alcohol and I have taken up fur consideration only those rew materiah which can be employed directly as substitutes for molasees without any elaborate preliminary trentment and I have attempted to work out the probable contribution of the cost of the raw material towards the price of the final product, power slcohol.
\%. Jaggery.-The price of this material fluctuate enormously dependug apon the mamm nod the current price of sugar. At times it is very cheap and distilleries buy large quantities and atock the material. It may be mentioned that the inferior quality of jaggery, which is aoft and which in not much in demand, does not make any difference in alcohol production. We can safely fix the arailable price for jaggery at 8 annas per maund of 25 lb . or Rs. 1-10-6 per maund of 82.7 lb . Taking the average of 4.15 gallons of absolute alcohol per maund ( 82.7 lb .), the cost of the raw material per gallon of alcohol is Re. 0-6-4.
2. Cane tops.-It has been estimated by W. L. Owen (I.S.J. 1930, page 431) that ahout $20-25$ per cent of the cane is removed as cane tops unfit for crushing. Only a small fraction of this is employed as seed and the rest is at present being wasted and can very well he used for the production of alcohol. One ton of these tops is estimated by him to produce seven gallons of sloohol. It is not used by the sugar factory because of the high content of glucose in the juice; but this is not a disadvantage in the manufacture of alcohol. The material should he very cheap and the cost of it can be put more or less on the same level as that of molasses. It has of course to be crusied to obtain the juice but a considerisble amount of bagasse will be obtained which as fuel can pay the cont of orushing.
3. Sugarcane.-This offers a very good raw material for dintilleries situated in sugarcane growing tracts. It can be crushed and the juice can be employed directly for fermentation. Taking the average economic price of cane per ton as Rs. 6, since one ton of cane ( 15 per cent total mugara) can yield fifteen gallons of alcohol, the cost of this raw material per gallon of alcohol will be about 6 annaa, There are some advantages in the use of this., Even canes that are not quite ripe may be employed because the difference is only due to the presence of glucose in the place of sucrose. Further an has been suggester by W. L. Owen, canes considered to be of inferior quality for sugar manufactnre but yielding very high tonnage (such as $36 \times$ of Louisiana which yields 52 tons per acre) could be obtained* very cheap for this parpose without any disadrantage to the procens of distillation. Here again the cost of crushing will be met by the fuel value of bagase.
4. Palmyra palm and coconut palm juice.-This should be a very good source for the production of alcohol if used directly. The palmyra juice contains as much fermentable sugar as the angarcane juice. The present price of the juice or of the palmyra jagyery cannot be taken as an indor of the correct economic value of the material, since in most districts it still finds use as a beverage after fermentation. It is difficult to be accurate in stating the exact price at which it is available in districte where prohibition has been introduced or will be available all over the Presidency in course o! time. It could, however, be surmised on a rough estimate that this raw material will cost almost the same as the cane juice.
5. Sweet potatoes.-In several parts of this Presidency, sweat potatoes are grown in large quantities. Kecent analysis made in the Andhra University laboratories shows that it contains about 20$2 \%$ per cent of fermentable carbohydrates ( 4 per cent sugars and the reat starch) and it can yield about 27 gallons of power alcohol per ton. The cost of this raw material which is now mainly produced for edible purposes, is about 13 annas gallon of ulcohol. It is qnite poseible that when large 4 uantities are grown for the production of alcohol this cost may come down to two-thirds or even to half. In that case, the cost of raw material per gallon of alcohol will be about $8 \frac{1}{4}$ annas or $6 \frac{1}{3}$ annas. It should be noted, however, that there is need for proliminary saccharafication of the starch.
6. Mohua flowers.-This material is very cheap at the site of production. For dintilleriea located at a distance, the freight becomes the chief item. Further it eeems to be much in demand for the production of beverages, owing to the fine flavour it imparts to the alcolol.

Bince there has been some delay in my obtaining information regarding the current price of the flowers I have to postpone the final estimate of the cost of the materials necesary for producing on gallon of power alcohol.

Obviously there is the possibility of one or more of the above raw materials in every part of thePresidency offering adequate coope for the production of power alcohol. Excepting molaskem the present cost of the raw materisla is rather high and hence there will be need for the reduction of
the excise duty on power alcohol. Owing to the fact that alcohol is of vital importance to the development of several industries, its production should be encouraged as is done in several of the forward countries in the world by offering special facilities such as reduction or complete removal of duty, cheap freight and cheap denaturants.

## APPENDIX $C$.

Note on the diffirent hbyhods of manofacturn of powrr aloozol.
betore 1423 , alcohol of $95-96$ per cent strength only was available for use as a source of power. Merck were, of course, preparing small quantities of 99.6 par cent to 100 per cent alcohol by distilling rectitied spirits over quicklime and later over metallic sodium, but the product thas obtained was too costly to be used for power purposes.

In 1923, the Distilleries des Deus-Serres et Melle worked out a commercial process for the manufacture of absolute alcohol of 99.8 per cent to 100 per cent strength by using benzene for the areotropic separation of water. This process was soon followed by others, e.g., Drawinol process, Haig process, gypsum process, the Bauxite process, etc. Theie methods have been rapidly improved during the last ten years, so much so that absolute alcohol which used to cost about Rs. 10 per gallon some 15 years ago, can now be marketed in India at 6 to 8 annas per gallon exclusive of duty.
'Whe processes at present in use for the manufacture of power alcohol, could be grouped under two heads-viz., (a) azeotropic methods, and (b) salt dehydration methods. In the azeotropic methods a hquid entraining agent is used, which forms an azeotropic mixture of alcohol, water and the entraining agent which possesses a lower boiling point than the individual constituents present or combinations of them two by two. Hence during distillation the azeotropic mixture passes over first, carrying with it all the water. The entraining agents, whose use has been developed on a commercial scale are benzene in the Melle process and trichlorethylene in the Drawinol process.

In the salt dehydration method, 93-95 per cent alcohol is wapourized and passed through a column containing the dehydrating agent, which can either be a liquid, e.g., alkali acetates dissolved in absolute alcohol as in the Haig process or a solid, e.g., gypsum as in the process patented by the 1. G. Farben Industrie or quicklime as in the older Merok'process.

The patentees for the major processes are-
(1) Melle process-Societie Anonyme Les Usines de Melle, France.
(2) Drawinol process-Keich-Monopolver-Waltung of Germany acting through Messrs. E. Merck, Dramstadt.
(ङ) Haig process-Haig-Verein Holzverkohlungs-Industries, Frankfurt (Main), Germany.
(4) Gypsum process I. G. Farben Industries Aktiengesellschaft acting through Bamag-Meguin Aktiengesellschaft, Berlin NW 87, Germany.
The above patentees do not undertake the supply of the necessary plants for their methods, bui have entrusted it to their agent-licensees.

I'he following gives the present annual production of absolute alcohol by the two groups of methods : -

> World Production of Absolute Alcohol (1937).
> (I Hectoliter = 22 gallons.)

1. Azeotropic methods-
(a) Melle system
(b) Drawinol system

| - | HECTOLITERS. |  |
| :---: | :---: | :---: |
|  | . | 5,250,000 |
| . | $\cdots$ | 3,000,000 |
| Total | - | 8,250,000 |
|  |  | $!$ |
| - | - | 3,975,000 |
| - | - | 265,000 |
| - | - | 120,000 |
| Total | - | 4,360,000 |

Melle process.-The Melle process was originally designed in 1923 for the preparation or absolute alcohol from 95 per cent rectified spirite (First Technique), but the process has since been modified (F'ourth 'lechnique) so as to avoid the intermediary preparation of 95 per cent alcohol and to prepare absolute alcohol straightaway from the mash in one continuous series of operations.

The advantage of this modification is that it effects a saving of 50 to 60 Kg . of steam per hectoliter ( 22 gallons) of alcohol produced. This is an important aaving especially in South India where the cost of coal or even wood is high.

Exusting distilleries producing rectified spirits can alwo fit up the additional parts required fof abeolute alcohol production by the Melle process in such oway that they can produce either rectifed epirite or absolute alcohol at will.

IDe Melle process possesses the largect number of installations and the longett turnover of absolute elcohol in the world and the Fourth Technigue offers, no doubt, the cheappit metinul of manufacture of power alcohol. The Mandye Sugar Factory have adopted the Melle's plant in their $d$ stillery which is producing both rectified spirits ( 95 per cent) and absolute aloohol (Melle, First 'rechnique).

A possible disadvantage of the Melle process is the use of bensene as the entraining apment, which is not produced in large quantitiee at present in India. But the loes of entraining liquid is claimed to be U04 to 0.05 per cent only of the slcohol produced in which case it is possible to obtain the sanall supplies needed for renewal, within the country itself. The difficulty will, howerpr, ceame, when the by-product recovery orens are adopted to a greater extent by the coking plants in Bihar and Pengal.

Considering all factors, the Meile proceas is to be recommended for adoption. Where the diatillery is concerned only with the manufacture of absolute alcohol, Melle's Foarth Technique may be adopted. The smallest convenient unit at present marketed is about $\mathbf{3 0}-40 \mathrm{hl}$. per day, but the Melle office states that if the power alcohol is to be used round ahout the losaility where it in manufarturnd, a plant of even lesser capacity, e.g., 20 hl . per das, would prove an economic unit and enuld worls on the pronciples of the Fourth Technique.

The Drawinol procese works on the same principles as the Melle process but uses trichlorethylenc as the entraining agent. It is claimed that the dehydration efficiency (the proportion of water prement in the ternary mixture) and the decantation efficiencs (the volume of the aqueous layer) of trichlorethylene are superior to those of benzene and hence the operations are quicker and more efficiently carried out. Disadvantages of the method are the entraining liquid and the necasity for a complete separation of the trichlorethylene, since it has a density of 1.47 and even very amall proportiona left anseparated wil! affect the specific gravity of alcohol appreciably. The method is largely adopted by the Cerman Government which his a monopoly of the production of power alcohol in the nountry. Under Indian conditions it offers no attractions superior to those of the Melle procesa.

Among the salt dehydration methods, the Haig process is one that cominands the largest production. In this respect it is next only to the Melle process. It possesses the advantage that the materials used, viz., alkali acetates are cheap and could be obtained within India itself, and moreover the lona of the dehydrating agent is very small. The equipment and oparations are simpler than in the Melle'a process. 'The main disadvantage is that superheated stean at the rate of 65 Kg . of rteam at $360^{\circ} \mathrm{C}$ are necessary for dehydrating the alkali acetates. Considering the high cost of ateam in the Madras Presidency it is doubtful whether the method will work out cheaper than the Melle process.

Un the other hand, the gypsum process offers peculiar advantages especially in area, e.g., Trichino. poly and Erode, where cheap supplies of gypsum are available. The technical side of the process has bean considerably improved in recent years. The dehydrating equipment consiats of a revolving drum. contalning powdered anhydrous gypsum. The gypsum is converted into a hemi-hydrate which is dehydrated by indirect heating with liquids of auitable boiling point. The whole plant is a:mple and could be fitted on even to amall distilleries preparing rectified spirits. The process seems to be peculiarly suited to deal with the molasses of small sugar factories with a crushing capacity of 100 200 tons of cane per day.

In conclusion, it may be stated that the conditions in the Madras Presidency favour the adoption of the Melle process, for large dintilleries with a daily production capacity of 1,000 gallonn and above and the gypsum process for small distilleries, especially, near localities where gypsum deposits occur.

## APPENDIX $\mathbf{D}$.

Egtimated cost of producitor of absolutis Aloonol.
A. Basis of calculation-

I The distillery will treat 7,000 to as of molusses per annum.
2 Cost of molesses-Ris. 7 per ton.
3 Cost of coal-Rs. 17 per ton.
4 Cost of sulphuric acid-Rs. 2-8-0 per gallon.
5 Cost of ammonium sulphate-Re. 121 per ton.
6 Total capital involved, including working capital-Ra. 4,00,000.
7 Royalty (reckoned on a plant having slightly more than a 50 per cent capacity margin)- 8800 Rs. 10,666-10-8.
8 Yield-One ton molaseas yields 60 gallons absolute slcohol.
9 Depreciation-6t per cent on plant. 价per cent on buildings.
10 Intereat-6 per cent on total capital involved.
11 Number of working daye- $\mathbf{3 0 0}$ per annum.
B. The total annual production-7,000 $\times 60$ gallons $=420,000$ gallons.
C. Cost of installation delivered and ereoted and put into operation including
building, molasses and alcohol, storage
3,25,000
D. Cost of production, Fourth Technique Melle-

$$
\mathbf{T}
$$

1 Molasses 7,000 $\times$ Rs. 7 .. .. .. ... .. 49,000
2 Coal ( 35 lb . steam per gallon of alcohol or 5 Ib . of coal per gallon of
alcohol). Therefore 420,000 gallons $\times 5 \mathrm{lb}$ say 940 tons
$\ldots$
$\begin{array}{rlllll}3 \text { Sulphuric acid-Abeut } 7 \text { granimes per gallon of wash (wash at } & 6 & \text { per cent). } \\ \text { Say about } 6,375 \text { gallons at Rs, 2-8-0 } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & 15,940\end{array}$
4 Ammonium sulphate 7 tons at Rs. 121 .. .. .. .. 910
5 Government licence fee .. .. .. .. .. .. 100
6 Depreciation-
$\left.\begin{array}{lllll}\text { Plant Rs. 2,25, } 000 \text { at } 6 t \text { per cent } \\ \text { Buildings Rs. } 1,00,000 & \text { at } 6 t \text { per cont } & . & . . & . \\ \text {.. } & . . & \because\end{array}\right\} \quad 20,310$
7 Interest (six per cent on Rs. 4,00,000) .. .. .. .. .. 24,000
8 Labour including supervision, clerical and enginearing stafi .. .. 25,000
9 Light, power, laboratory material, greases and oils for pumps, eleaning $\begin{array}{ccccc}\text { materials .. } & \text {.. } & \text {.. } & . . & . . \\ 1,200\end{array}$
: 10 Upkeep and maintenance, including repairs .. .. .. .. 1,200
11 Dehydration carrier liquid ..: .. .. .. .. .. 600
12 Insurance-Fire, workmen's compensation, riot and civil commotion ; .. 3,130
13 Storage, transfer and issue spirit wastages at $1 \frac{1}{1}$ per cent, say, 6,300 gollons at six annas per gallon
2,360
$1,59,730$
Say approximately Re. 0-6-1.02 per gallon.
Nors.-6. Depreciation has been calculated at of per oent as allowed for income-tax purposen, but most buslneas concerns would depreciate plant of thls. kind at ten per cent and steel tramed corrugated aheet bulldings at five per cent per annum.
No allowance has been made above for possible aharges inourred in dispoaing of spent waah.
APPENDIX E.
( 40 hl - 150 days).
 and attached to a sugar pactory.


## APRENDIX F.




# T9 (LA) : 84.21.N4t 

Ho

## $\therefore$ REPORT OF THE COMMITTEE ON THE GOVERNMENT INDIAN $\cdots \quad \therefore \quad$ MEDICAL SCHOOL.

We, the"Members of the Committee appointed by His Excellency the Governor of Madras under A.O. Ms. No. 1988, dated the 13th May 1940 "to report on the hines on which the curriculum of $r$ studies and methods of teaching and examination followed in the Indian Medical School should be improved or altered," have the honour to submit the following report.
2. The terms of reference "are as follows:-
(i) To examine and suggest ways and means of improving or altering

(a) curriculum of studies,
(b) method of teaching;

- (c) method of examination; and
(ii) to consider the question whether the number of beds provided in the hospital attached to ${ }^{\circ}$ the School for clinical instruction is adequate and if not, what the bed strength. of the .hospital should be.

3. The Committee met for the first time at Fort St. George on the ard July 1940 and resolved to request Dr. G: Srinivasamurthi, Principal of. the Government Indian Medical School, to prepare and send a note on the points of reference for the use of the Members; and the Secretary to got copies of the auricula of studies. and syllabuses followed in similar institutions in other Provinces.
4. After the receipt of the Principal's note, the Committee went round the School and Hospital on 18th September 1940. "They met an the 19th, 20th and 23rd September at the Madras University Buildings and had preliminary discussion on the ${ }^{\text {r }}$ various points. With the Principal. The Ooremittee met again from 21 st to 29 th October 1940 except on the 25 th and 27 th. a Further meetings of the Commitree were held on the 6th, 7th and 8th January 1941 for discussion of the draft report and such alterations as mete considered necessary or desirable, having been made", the report was signed on the lOin' Janamge z941r
5. The Conamittee decided that aneto was ne necessity to examine any outside bodies or individuale connected with Indian Medicine, as the present enquiry: ins concerned only with a particular institution, namely, the

> Origin, object and working of the school.
8. It is "desirable to give a brief description of the School and" tit working before we proceed further. Towards the end of 1921 the Government of Madras appointed a Committee under the Chairmanship of Mr. (now Sir) Mahomed Daman to report "on the question of the recognition and encouragement of the Indigenous Systems of Medicine in vogue in this Presidency.". After a thorough and exhaustive in estimation of various questions, they recommended to the Government the recognitron of the Indian Systems of Medicine and the establishment of suitable centres of Medial Educatior by them. In their view "Every scheme of study of Indian Medicine, whether Ayurveda, Siddhe or Unani should make adequate provision not only for efficient training in subjects appropriate to itself but also for the teaching of the essentials of whatever is valuable in Western Medicine." Accepting the recommendation of the Committee, the Government established the Indian Medical School in 1925 to give such instruction to its students as would enable them to become practitioner of Indian Systems of Medicine with a good working knowledge of the Western-System.
7. In addition to the L.I.M. (Licentiate in Indian Medicine) Course which extends over a period of five years, provision is also made for imparting post-graduate instruction in Indian Medicine and Western Medicine to fully qualified practitioners of Western Medicine and Indian Medicine respectively.. These are known as A.I.M. (Associate in Indian Medicine) and A.K.I.M. (Associate Licentiate in Indian Medicine) Courses, extending over a period of two years each. There is also provision for passed L.I.Ms. of the School to apeoialive' in branches of Indian Medicine in which they have not specialised, in their L.I.M. Course and also for obtaining a higher qualification (H.P.I.M.) in their own branch and there is also a Compounders' Courser
8. The L.I.M. Class is divided into four- sections:-
(i) Ayurveda-Polaga Section,
(ii) Ayurveda-Tamil Section,
(iii) Siddha Section, and
(iv) Unani Section.

The following table shows the strength of the student e for 1940-41 in each of the sections of the five years:-


## The present curriculum of studies.

9. The folluwing is the preseat curriculum of atodies for all sections:-

The names of the subjects are given in English to as to bo applicalle to all acotioas, vis, Ayurneda, Siddhe and Unani, but inacraction in the varions mublecte to baced opan the Ayurveda, Siddhe and Onani writinge, reapectively, the subjecte included in Weatern Medicine being taught in acoordance with English books on the subject.)

Pirvel ypor.


Board Examinations in aubjeotel 1 to 8.

Second year.


## Board Draminationg in gubjecta 1 to 8.

## Thind your.



Clinioal practico-


Fourth yacr.
 Board Exeminations in eubjects I to 4.

Clinical practice-


Fifth year
Apprentice Physioian's courise-
Medical practice at out-patient, in-patient and Pharmedy departmente $:$.
Surgical practice (including Obettetrical practice at the out-patione and in-patient departments)

## 6 months.

8 do. ${ }^{\text {: }}$
Only those who have satisfactorily nudergone the apprentice physician's courme will by eligible for the grant of the. Diploma of Licentiate in Indian Medicine.

General proposale,
10. Keeping in view the purpose for which the School was etarted, we have examined in detail the curriculum of studiea, methods of teaching and examination followed in the Bchool.
11. Since the curriculum of studies is based on the general educational qualification of the sti:dents admitted into the School, the Committee discussed at length, as areliminary to the detailed discussion of the curriculum of studies, what the minimum general educational qualification of students admitted into the School should be. Dr. A. Srinivasamurthi, Principal of the School, etrongly pleaded before us for the rasing of the general educational qualification of the studente from the G.S.L.C. to the "Intermediate standard and consequently for converting the School into a College. But since we think that this question of raining the School into a College does not come within the terms of reference, we do not propose to go into it. It has been the practice to admit into the

Echool students who have not completed the S.S.L.C. course, with the result that such students find it difficult to follow the subjects of Western Medicine which are taught in English. Therefore we suggest that the completed S.S.L.C. should be the minimum general educational qualification for students hereafter.
12. The authoritative texts in Ayurveda, Siddha and Unani Systems are in Sanskrit, Tamil and Urdu respectively and practitioners of these systems if they want to be competent and efficient, nhould have a good knowledge in their respective langnages. The majority of atudents at present admitted into the Ayurveda Section is ignorant of the Sanskrit language. We feel convinced that unless these practitionersr of the Indian Systems of Medicine know their rempective languages thoronghly well, they eannot be efficient in their profession.
13. The views of the Principal and a lecturer from each of the four sections were taken on this question. The Principal thought that it would be ideal to insist on a knowledge of Sanskrit before a student was admitted to the Ayurveda Section bat that the number of students in the Ayurveda-Telugu Section would fall considerably during the first few years, as very few Andhra students had a knowledge of Sanskxit at present. Lecturers of the Ayprveda-Telugu Section and the Ayurveda-Tamil Section admitted that a knowledge of Sanskrit was quite essential. The Lecturer of the Siddha Section was of the opinion that a knowledge of advanced Tamil was quite essential for a Siddha student for the proper appreciation of the original texts. The:Lectarer in Unani said that all the text-books in Unani System were very well translated into Urda from Arabic and that there was no necessity to teach the students the Arabia language as language and suggested that advanced Urdu might be taught in place of Arabic. After careful consideration of the opinions of the Principal and the Lecturers, we have come to the conclusion that admission to the school should be made on the basis of an examination in Sanskrit for Ayurveda students, in Tamil for Siddha students and in Urdu for Unani students. It may be that, by the insistence of this knowledge from the students, the strength of the Andhra students stadying Ayurveda mighte fall in the first few years after the introduction of this rule but we are certain that in course of time the Andhra students will adjust themselves to the change and seek admission in as large a number as at present.

## Proposed:Curriculum of Studies-LXM. (Licentiats-in'Indian Medicine) Course.

14. As regards the curriculum of studies for L.L.M. Course we make the following proposals:-
(i) General Science. The present standard of teaching in Physics, Inorganic Chemistry and Botany is quite sufficient. In addition there should be an elementary course in Organic. Chemistry.
(ii) Materia Medica and Pharmacy.-The subject of Materia Medica is taught at present mooording to both systems, Indian as well as Western. Since the object of the Indian

- Medical School is to train students mainly in the Indian Systems of Medicine, it is unnecessary to expect them to learn Western Materia Medica in extenso. Hereafter Indian Materia. Medica should be taught thoroughly in the school, along with a few selected special
$\checkmark$ drugs from the British Pharmacophoeia which would be very useful. The syllabus in Indian Pharmacophoeia should be the same as at present.
(iii) Fundamental principtes of Indian Bfedicine.-We do not propose any change in the curriculum.
(iv) Anatomy and dissections.-We consider that an intensive study of the subject of Anatomy is unnecassary as too much time will be consumed in studies which have ne clinical bearing. Dissections should be taught with a greater mumber of dissected modele such as are kept now in the 'two Medical Colleges in Madras.
(v) Physiology.-The general outlines of Physiology should be taught as at present.
(vi) General literature (Sanskrit, Tamil or Arabic stiudies). -At present students of the Ayurveda Sections are taught. Mana Meyodayam. The subject is a very difficalt one which oannott be easily:grasped by atudents of the standard studying in the Tndian Medical School. Therefore we recommend that it may be deleted from the present eurriculum of studiea, and a simple treatise on Jyotisha may be sabstituted, Students of the Unani * Section are being taught the Arabic language. Since all the original books in Arabic on the subject of Unani are found trenslated into the Ordu language, we think that hereafter advanced Urdu may be taught to the students of the Onani Section instead of Arabic. We strongly recommend that Sanskrit should be taught to the Apurveda students, Tamil to Siddhe etudents and Urdu to Unani students by persons well qualified to do sa.
(vii) Pathology and diagnosis.-Both systams of Pathology-Indian and Allopathic-ohould be taught. As regards the Western System of Pathology, only elementary principles need be taught. Diagnosis of diseases should always be according to the Indian Systeme of Medicine.
rviii) Hygiene and public health.-No change is required. What is being taught now is quite sufficient.
(ix) Mediciné inchuding mental diseases, ete-We are of opinion that there thould be an intensive study of Indian Medicine by the studeats of the Indian Medical School, as they are expected to practise mainly Indian Medicine. However, some lectures on Comparative Medioine should also be delivered.


#### Abstract

Honital ars Blos. 27. We are of opinion that patients in the out-patient-Medicel wection-ahomeld be erated according to Ayurveds or Siddhs or Dnani Syment and patienta in oat-pationt-Surgical metionacoording to Wenter: System, using Indian Medicince wherver powible.


In-patiagt department.
The present enctioned strength of bedfy the hospital attached to the Indian Medicel Gchoot
follow:-


The present number of 80 beds in the Hospital is quite inadequste and in our opinion it should be trebled, but owing to present financial conditions we recommend that it shotald be raised at least to 165 beds immediately as detailed below:-


The present accommodation in the Hospital is quite inadequate even for the preasint number of beds. Accommodation has to be provided for the additional beds recommended above. Within the school compound there is a large vacant site wherein buildings might be put ap.
MAHOMED USMAN, Chairman.
M. R. GURUSWAMI,
-K. BALASUBRAHMANYA AYYAR,
S.K. PILLAI,
M. A. NAIR.

Madras, 1)th Januaty 194F:

- With a noto.


## NOTE OF SriK. BALASUBRAHMANIA AYYAR, DATED $10 T H$ JANUARY 1941.


#### Abstract

All ars agreed that a goad knowledge of Sanskrit is essential for a student of Ayurveda to grasp thoroughly the sabjects tanght in the Ayurveda Section. Hence, the Committee have recommended in the report that an examination in Sanskrit ahould be held as a preliminary teat -for admission of students to that section. But the report has not indicated what atandard uhould be adopted for the examination. From my experience of the working of Ayurvedic Colleges, I feel that unless a student possesses a knowledge of Aanskrit approximating to the etandard required for the Government entrance examination, Sahitya, he will not be in a position to follow intelligently the text-books that are taught in the Ayurreda section. Though it may be that by the adoption of this standard, the strength of the Ayurveda section may fall in the beginning, I am sure in the course of a few years, the number will increase. But, even at the risk of a reduction in the number of students in the beginning, I think it is necessary that the examination should come up to this standerd, since on the efficiency of the students that will finslly pass out of the inatitution, the usefulness of the School and of the indigenous system of medicine will largely depend. The general literature course for the first three years of the L.I.M. will enable the students to further improve their knowledge of the Sanakrit language especially of Sanakrit Grammar (Siddanta Koumudi). Therefore my suggeation is that the Principal should, at least after a few yeara, adopt for the admission examination in the School the aame standard, which il required for the Government Entrance Sahitya Examination.


[^0]:    "सर्वाणि कुष्षानि सवातानि सपिचानें सशेष्माणि सकिमीणि च मवन्ति I" (Euehrutar DVidan, Chap. V)

[^1]:    It will be clear from the above methods that most valuable information can be gained with regard to the rate, rhythm, strength, tension, volume, and state of the vessel wall, and other character of the pulse waves, and besides these, certain other important faotors about the heart and other organs of the body can also be determined. These observations along with those collected by other methods, if used and interpreted correotly, give sufficient information about the doshas. The factors of the above type are such as-
    (1) Manda or Tibra or Vaigvati (Cf. rate of the pulse).
    (2) Sama or Vishama ( $C f$. Rhythm and strength, etc.).
    (3) Sukshma or Sthool (Cf. Vol. of the pulse, small or large).
    (4) Temperature (Shita or Ushna).
    (5) Gurvi and Laghwi (Cf. high and low tension of the pulse).
    (6) Sthira or Chapla (Cf. distinct or indistinct pulse).
    (7) Tantusama, Mritsarpasama. These give information abont the state of the vessel wall.
    (8) Mansbridhi (Of. Arteriosclerosis).
    (9) Swasthana or Sthan-Vichyut pulse palpable in the normal site or elsewhere.

[^2]:    ${ }^{1}$ तक्रतत्परतया मुधान्धसः कुर्व्वते सुरभिसड्रहं सदा ।
    ?. "सर्व परवशां दु:बं सर्वमात्मवरं सुखम् ।
    एतद्विघात्समासेन लक्षणं ंुस्सदु:बयोः ॥
    

[^3]:    Thirdly Lakshnnam.-Again the authors of Ayurveda have said also how these prior symptoms. first manifest themselves, e.g., in the oase of fever, difference in temperature in different parts of the body, stiffness of the limbe, pain in the joints, headache, etc. (vide

    This is therefore the one step by whioh we are able to diagnose any partioular ailment, i.e., by asoertaining what were the firat visible outwerd manifestations.

    Fourthly Upasayam, i.e., having diagnosed by the above prooesses that a partioular oase is one of fever, it has next to be fonnd out to what particular variety of fever this belongs, i.e., whether it is malaria or typhoid, or influenza, eto. The Sanskrit authors have mentioned 63 whether varieties of fever and mentioned also the partioular obaracteristics of each and the partisular methods of treatment for each. Therefore with a view to asoertain the partioular variety the physician is required to try one or two remedies as a sort of feeler, and if a remedy that is presented for noe variety of fever is found effective he conoludes that his case is of that variety.

[^4]:    Man.-Man is a production of divine mind and thoaght, produced (1) of the essence of the five elements (2) sole of the stars, (3) and the spirit, which is the outcome of apiritual, etellar and temporal sides of Magnnm Limbus from the Matris of nature formed of seven layers of tisures. His diseases are either the outoome of external machanical causes or are due to the mental conditions of Thathwas in chemical combination with his flesh. Every man is of eight spans of length maoh, by his own hand with thirty-two internal organs and limbs, and sixty-four fanctions, of physical, spiritual and internal causes. Diseases, an per old Siddha chemical echool, are of five kinds, (1) by astral causes, (2) by impurities and poisons, (3) by the atoppage of the normal

[^5]:    यदाह वाग्भठ:-

[^6]:    रोगा भवेये: 1

[^7]:    
    
    
    

[^8]:    " $\boldsymbol{\text { ® }}$
    
    
    
    

[^9]:    
    

[^10]:    Replying to Mr. Palmer, the witness said: I oannot say whether there is any medioino in our system which can produce senselessness like the chloroform. Of course, we have got other drugs which can produce senseless effect. There is the ' datara' and there is also the 'opium '.

    Replying to the Chairman, the witnese said : I oan core diabetes, Ayspppoia, etc., according to the Ayorvedic system. In Anamali, a police inspector was my patient. When he came to me there was sugar in his urine and after undergoing treatment under me for some time, the sugar disappeared and he was restored to his normal health. I can eare hydrocele by giving medieines externally. We have also got eome very costly 'hammams' which cure consumption. I bave alko orred sime cares of socrofula and leprosy. I generally sppreciate the registration of medical practitioners. It will be well and good if we bave a aeporate board for the $\Delta$ furredic and the Unani systems of medicine. If that is not feasible, we wll be matisfied if come

[^11]:    "The European community is a selected group, so that no comment on its figures need be made, except that the European death-rates may be used as a basis for comparison.

    The Anglo-Indian community has recorded death-rates twice as high as those for Europeans except during the comparatively healthy years 1915 and 1916.

