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HIS EXCELLENCY THE HON'BLE (BREVET) COLONEL SIR GEORGE SYDENHAM CLARKE,  
R.E., G.C.M.G., G.C.I.E., F.R.S.

*Governor of Bombay and President of the Congress.*

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TRANSACTIONS

OF THE

# Bombay Medical Congress, 1909.

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Edited by

LIEUT.-COLONEL WILLIAM ERNEST JENNINGS, M.D., D.P.H., I.M.S.

GENERAL SECRETARY OF THE CONGRESS; FELLOW OF THE ROYAL INSTITUTE OF PUBLIC HEALTH; HONORARY  
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## EDITOR'S PREFACE.

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The idea of holding a Medical Congress in Bombay upon Tropical Diseases originated with His Excellency the Hon'ble Sir George Sydenham Clarke, Governor of Bombay, and no time could have been more opportune for the purpose than that which he selected. The first Indian Congress held in Calcutta years ago provided an incentive for earnest and vigorous research throughout India which was powerfully stimulated by the great pandemic of Plague which appeared shortly after and has not yet disappeared. The gradually accumulating fruits of this research, in varying degrees of maturity, have been awaiting garnering and sifting, processes which can only be satisfactorily effected by minute comparisons, the careful interchange of independent views and the modifying influence upon too rabid enthusiasm of a stern application of the principles of inductive and deductive logic. The necessity for some machine for combining these forces has been obviously becoming increasingly apparent year by year for several years past, and experience has shown that the only machine capable of producing the desired effect is a Congress of serious searchers after the same truths in different and widely scattered parts of the world. Contributions and delegates were therefore invited from Great Britain, the Continent of Europe, America, the Philippine Islands, Malay, Sumatra, Japan and other parts; those known to be engaged upon any particular form of research upon Tropical Diseases being particularly invited to attend or send papers. The varied contributions forming the bulk of this report represent the result of those invitations, and no more valuable testimony as to the successful nature of the gathering could be adduced than that given by Professor Musgrave in his report to the Government of the Philippine Islands (*vide* Appendix II of these transactions) in the following words, *viz* :—"In scope, material presented, and in attendance this was surely the most successful Congress dealing entirely with the problems of tropical medicine which has ever been held."

It would be convenient here to enumerate briefly some of the principal lessons which have been gleaned from the deliberations, the reader being left to peruse at leisure the evidences and discussions which have led to these conclusions :—

*Cholera.*—The bulk of opinion, contrary to much prejudice which has arisen of late years, favoured the employment of opium in the first stage, either hypodermically, or by several small doses internally, the total quantity given being within the limits of a single lethal dose to obviate accumulation and subsequent absorption *en masse*. It was also practically agreed, with regard to saline injections in the second stage, that the intra-peritoneal method is superior in practice to either the intra-venous or sub-cutaneous, and that hypertonic salt solution should be employed so as to maintain a high percentage of salt in the blood and thus cause the osmotic current to carry fluid to the vessels rather than allow it to escape therefrom.

*Coloured Underclothing in the Tropics.*—The advantages of orange or red coloured material for the lining of helmets and protection of the spines of those exposed to the sun were urged, and Capt. Nicholls, Medical Corps, U. S. A., read a paper by Capt. Phalen of the same Corps detailing experiments now being carried out in the Philippine Islands relative to the effects of coloured underwear. The results of these as well as of similar trials in Calcutta referred to by Major Leonard Rogers should prove of great interest.

*Calf Vaccine in the Tropics.*—It was generally agreed that glycerine is the most suitable preservative because of its bactericidal properties, many speakers however favoured the employment of Canolin.

*Oatmeal in Diabetes.*—Professor Carl Von Noorden (Vienna), in demonstrating the value of an Oat meal dietary in certain cases of Diabetes Mellitus, suggested, as the most likely explanation of what appears to be an anomalous phenomenon, that, with the oat, small quantities of a substance are introduced, into the system, which acts by stimulating the internal secretion of the Pancreatic gland.

*Appendicostomy.*—The evidence in favour of this form of treatment which was brought forward indicated that it deserves more extended trial in cases of chronic and intractable ulceration of the colon.

*Dysentery.*—Contrary to pre-existing notions as to the ætiology of this affection all the evidence brought forward seemed to point to its spread by means of the convalescing human being acting as a "carrier," not necessarily in the technical acceptation of that term, but by the shedding of the virus from unhealed intestinal lesions which reaches the alimentary tracts of healthy persons in various ways. This knowledge will be of value in effecting efficient prophylaxis in prisons, asylums, schools and other institutions. With respect to treatment, evidence was adduced as to the value of vaccine therapy with vaccine prepared from Shiga's bacillus in acute dysentery, and of the same combined with mercury in chronic dysentery. Replying to a reference as to the expense of serum therapy by Capt. Forster, Dr. Van Loghem (Sumatra) stated that she-goats give, in a few weeks sera against pseudo-dysentery bacilli with titre of 2.000 and more. Dr. Castellani (Ceylon) contributed a note referring to a poly-valent vaccine which he had prepared of Typhoid, Para-typhoid B, Dysentery of the Kruse-Shiga type and Dysentery of the Flexner type, the degree of immunization induced by which he found to be the same as that induced by using the vaccines separately.

*Enteric Fever.*—Much stress was laid on the subject of bacilli carriers and the part they play in acting as store-houses of the virus in nature and sources of infection. Proof was adduced as to their being recruited from two classes, *viz.* (1) Those who, after an attack of Enteric Fever, continue to harbour infection and excrete it in their faeces and urine, and (2) those who have been in close contact with the disease, or have lived under conditions where infection was possible, and who harbour the virus without having actually passed through a recognisable attack. It was further pointed out that carriers might be classified as acute or chronic the former harbouring infection for a few weeks only and the latter for months or years. Colonel Semple indicated, as desiderata, ready methods of detecting carriers and of rendering them innocuous, stating that the solution of these two problems would mark the next most important advance towards the prevention of Enteric Fever. Valuable evidence was also brought forward with respect to the value of anti-typhoid vaccination both as a preventive and as an agent for mitigating the severity of attacks.

*Hill Diarrhœa.*—In refutation of the now somewhat untenable mica theory of the causation of this condition, Dr. Newell offered the suggestion, supported by reasonable evidence, that it is due to the diminution of the atmospheric pressure causing a deprivation of blood in the internal organs (chiefly the liver and intestines) leading to diminished functional activity and an abnormally luxuriant growth of intestinal floræ. As the sudden rush of blood to the surface can be controlled by suitable clothing, it would appear that the most important prophylactic measure is the wearing of some non-conductable material next to the skin in addition to the extra outside clothing usually worn.

*Tropical Diarrhœas*—It was pointed out that, in addition to bacteriological and other examinations of excreta for the differential diagnosis of these obscure complaints, valuable indications for treatment are often afforded by blood examinations for ascertaining not only the degree of any anæmia present but also the nature of the white cell contents *e.g.*, increase of mono-nuclears indicates cancer or protozoa; of eosinophiles, hook worms; leucocytosis or increase of poly-nuclears, the presence of hepatic suppuration or amœbic infection, &c., &c. In emphasising the importance of a blood examination in every case Capt. Macy, Medical Corps, U. S. A., suggested, also, the making of agglutination tests, and the centrifugalization of the serum (as in making opsonic tests) for estimating the gravity of the case by noting the absence or otherwise of lipæmia during the alkaline tide of digestion. It is evident that such routine examinations might also reveal the existence of concomitant conditions otherwise overlooked.

*Maternal and Infantile Mortality in India.*—In bringing forward statistics bearing upon the enormous and preventable loss of life among infants and parturient females, Lieut.-Colonel Collie, I. M. S., advocated a more active policy than at present obtains for providing the women of India with skilled nursing, indicating lines upon which success has been achieved in other countries.

*Malaria.*—The result of a lengthy and somewhat spirited discussion on Malaria prevention was the general impression that efforts in this direction should follow the lines laid down by Professor Ross, *viz.*, (1) Mosquito-reduction in cities, towns, large stations and other densely populated places; (2) the prophylactic administration of quinine in villages, rural areas and districts with scattered populations; and (3) a combination of (1) and (2) under suitable conditions, or in the presence of severe malaria.

Professor Ross laid great stress on the necessity for measuring malaria in districts, and in his paper appear schemes for arriving at a useful estimate of the incidence by careful study of such statistics as might be available, and the direct examination of children, in any given locality. An important addition to our knowledge regarding the epidemiology of malarial fever was afforded by the evidence of Captain Christophers and Dr. Bentley who exhaustively proved that whole communities might become reservoirs of residual infection and thus involve neighbouring districts in epidemic malaria or, on migration of their members, diffuse infection far and wide. The important bearing of this human factor cannot be over-estimated in dealing with the recruitment and congregating together of large bodies of workers necessitated by Railway extension and the rapid growth of industry throughout the country.

*Black-water Fever.*—All evidence brought forward as to the ætiology of this disease pointed to its undoubted malarial origin; the malignant tertian parasite being the offender. Opinions were divided as to the determining factor, which, it was generally agreed, was neither quinine nor anything toxic in nature. Capt. Christophers and Dr. Bentley offered as an hypothesis that it might be an auto-lysin developed in consequence of the destruction of the red cells by a process described by them as Erythro-katalysis as distinct from the action exerted by parasites of the other species.

*Plague.*—With regard to the ætiology of plague, the following conclusions, enunciated by Major Lamb, I.M.S., as the results of the most recent researches of the Indian Plague Commission, were accepted, the report of experiments made by Professor Kitasato in Japan being fully confirmatory, *viz* :—

- (1) Bubonic Plague in man is entirely dependent on the disease in the rat.
- (2) The infection is conveyed from rat to rat and from rat to man solely by means of the rat flea.
- (3) A case of bubonic plague in man is not in itself infectious.
- (4) Insanitary conditions have no relation to the occurrence of plague, except in so far as they favour infestation by rats.
- (5) Plague is usually conveyed from place to place by imported rat fleas, which are carried by people on their persons or in their baggage. The human agent not frequently himself escapes infection.

These conclusions led naturally to many measures being recommended for the extermination of rats and fleas in localities, and for prevention of their importation from infected to healthy places,

The practical difficulties, however, of applying such measures, and the futility of expecting any degree of success in the conditions which now obtain in India, drew forth from "field" workers, as contrasted with those who base their recommendations on bacteriological discoveries, some strong expressions of opinion against the idea of suggesting that such latter recommendations should entirely supplant measures, such, *e.g.*, as evacuation, which had been proved to be of value in dealing with past outbreaks. There was no dissent as to the part inoculation should take in plague prophylaxis; and, with respect to treatment, evidence was adduced by Dr. Choksey to demonstrate that encouraging results had so far attended serum-therapeutical experiments.

*Leishman Donovan Body Invasion.*—In dealing with the subject of Kala Azar in Madras, Major Donovan emphasized the difficulties of clinical diagnosis, and gave it as his opinion that the risk of splenic puncture contra-indicated its employment for diagnostic purposes. He pointed out, however, that, in 93·22 per cent. of his cases, the parasite was found in the polymorphonuclears or mononuclears of the peripheral blood, urging that the secret of success lay in the method of making the blood smears. A finger of the patient should be washed and dried and then compressed below the pulp for half a minute and pricked by a new pin, a drop about the size of a pin head should then be taken from the exuding blood on to a slide near its end, and a smear made by another slide passed slant-wise over it, the main object being to have the smear in a straight edge at the finish. In this edge, he states, everything of importance is found. As regards the apparent similarity between the parasite itself and that of oriental sore, Dr. R. Row of Bombay produced valuable evidence in demonstration of the two being distinct organisms when examined in cultures. In congratulating Dr. Row on his having successfully cultivated the latter, Major Leonard Rogers, I.M.S., said that the absolutely different distribution of the two diseases in India had always made him regard them as likely to prove quite distinct.

*Sleeping Sickness.*—After an exhaustive consideration of the characters of the Tsetse fly and the infective organisms (trypanosomes) of which it forms an intermediate host, Capt. Greig, I.M.S., indicated the best lines for prophylaxis to lie in (a) *operations directed against the fly, e.g.*, clearing of undergrowth wherever human beings are brought together in numbers; destruction of the main food supply of the fly, *viz.*, blood of crocodiles, by destroying those animals; and the destruction of the fly by such agents as animals which will prey on it (certain kinds of fish) or plants whose odours would be obnoxious; (b) *Operations directed against the parasite harboured by the fly, e.g.*, by drugs such as arsenic, atoxyl (a combination of arsenic and an aniline preparation), antimony compounds and aniline dyes. In addition, he considered that isolation camps should be established in fly-free areas for the segregation of infected persons, and that measures should be employed for the detection of all harbourers of the trypanosome and the prevention of their movement into clean fly-areas. Such detection, he pointed out, is easily effected by microscopical examination of gland juice, obtained by puncturing a superficial gland in the posterior cervical triangle with a hypodermic syringe, in which actively motile trypanosomes can readily be detected under a low power, 150 to 200 diameters. Mr. F. M. Howlett advocated research by Indian Veterinary Surgeons upon the causes of surra on the lines of Capt. Grey's paper, pointing out that it had been found for certain that the genus *Hæmatopota* (Tabanidæ) was a transmitter of surra. He suspected that other biting flies might also carry infection, but investigation work had not yet been started.

*Ticks and Biting and Non-biting Flies.*—Capt. Carter, I.M.S., and Dr. J. T. C. Nash contributed important papers on the roles played by biting and non-biting flies, respectively, in the transmission of various diseases to mammalia. As regards the former Capt. Carter dwelt at length on the effect which the parasites he described are exerting with respect to the economics of the present and succeeding generations, if only because of fly-borne scourges among cattle and domestic animals checking the opening up of vast fertile tracts in Africa. As to the latter Dr. Nash adduced abundant evidence to prove how grossly the apparently harmless house-fly can pollute food by depositing putrefactive bacteria thereon giving rise to chemical changes which might easily exert toxic effects upon the consumers. His conclusions lend important confirmation to the growing conviction that the association between seasonal diarrhœa in India and elsewhere and the prevalence of flies is more than merely coincidental. Mr. F. M. Howlett minutely described different species of sand flies and their habits, and urged that the fact that the period of their maximum abundance coincides in many districts with the most unhealthy season of the year, when obscure short period fevers are often prevalent, especially in such localities as are particularly favoured by the flies, seems to provide evidence for a *prima facie* case sufficiently strong to warrant further investigation.

*Snake Venoms.*—The bulk of the evidence brought forward pointed, undoubtedly, to the true solution of the problem of neutralizing the effects of these venoms in the system, being the employment of anti-sera. So far the greatest drawback in this direction, apart from the difficulties of preservation, has been that the marked specificity of the poisons has precluded the production of a sufficiently poly-valent serum; that prepared by Major Lamb, and issued from Kasauli, being only antidotal to two poisonous species. Attention, however, was drawn to the fact that we have a powerful antidotal weapon in the shape of the local application of crystals of permanganate of potash as advocated by Sir Lauder Brunton and others. Though this agent is capable of neutralizing the poisons of all snakes, its employment is only of efficacy before the onset of constitutional symptoms, and, for its successful application, it would appear that a very thorough excavation at the site of the wound is essential, simple scarification being generally useless. The old traditional measures, *viz.*, suction and ligature would appear to possess little, if any, intrinsic value; their moral effect, however, being great, especially in cases suffering from fright after bites of non-poisonous snakes, they should not be discouraged. Artificial respiration in colubrine cases, and the employment of calcium chloride and adrenaline in viperine ones, were shown to be useful auxiliary measures.

*Streptothricosis.*—Major Hooton, I.M.S., and Dr. Powell described some cases of Actinomycosis; the former drawing attention to some clinical points of distinction between the condition and that known as Mycetoma for which it might be mistaken, *e.g.*, the latter rarely attacks any part but the feet and hands; it is unaffected by Iodide of Potassium, while Actinomycosis keenly reacts thereto; it never becomes generalized though it occasionally involves lymphatic glands, while Actinomycosis frequently forms metastatic deposits and never involves

lymphatic glands. With respect to pathological distinction, Professors Musgrave and Clegg, in their exhaustive monograph (read by Professor Musgrave), sought to fix the ætiology and classification of mycetoma, and their conclusions are quoted as follows:—

“There is, in human pathology, a very important group of branching, filamentous micro-organisms which logically belong to a single genus. The generic name is variously given as *Streptothrix*, *Actinomyces* or *Nocardia*; the last of these names is probably scientifically the most correct, but because of the present botanical confusion and uncertainty the first is here employed, because of its more general acceptance.

The following species to judge from our work and from a study of the literature are the most important and may be recognized as established. There are probably a number of others, but the descriptions of many of them are too imperfect to allow of their recognition:—

- S. actinomyces* Bostroem, 1890.
- S. actinomyces* Wolff & Israel, 1891 and Wright, 1905.
- S. nocardii*.
- S. eppingeri*.
- S. maduræ* Vincent.
- S. capræ* Silberschmidt.

The disease caused by infection with these parasites is properly named streptothricosis, with actinomycosis and nocardiosis as synonyms. Other names, such as lumpy-jaw, madura foot, mycetoma, etc., should be considered more as describing anatomic location rather than as designations relating to any special or specific cause of infection. Mycetoma might well be taken as the correct name for the group of infections if a strict interpretation of rules of nomenclature is followed, but usage renders it perhaps more desirable to retain the name as representing *Streptothricosis pedis*. If mycetoma is to be considered in any more comprehensive light than this, it should become another synonym for streptothricosis. It should not be considered a disease caused by organisms other than *Streptothricæ*.”

*Lathyrism*.—Lieut.-Colonel Buchanan produced undoubted evidence to prove that this condition is caused by the ingestion of the grain variously known in India as lathyrus, lakh, lakhori, teora, &c., it being essential that the grain be consumed in large quantities, and for a considerable time, before the disease appears. Modifying influences are the growth of the grain in rice areas, its employment as dhal (when it is boiled), and decortication before use, in all of which circumstances it rarely causes lathyrism.

*Beri-beri and Epidemic Dropsy*.—The evidence regarding the ætiology of Beri-beri brought forward by Dr. Leonard Braddon leaves practically no room whatever for doubt that the disease is due to an intoxication caused by a specific poison contained in rice when stale, *i.e.*, after long exposure subsequent to decortication. Professor Musgrave, in his report to the Government of the Phillipine Islands (*q. v.*), states that he has, since the Congress, seen the advance sheets of a report from Dr. Frazer of the Kuala Lumpur Laboratory which contains the strongest evidence yet brought forward in support of this hypothesis. Although the theory is not a new one, it has been a much disputed one, possibly because only comparatively recently have we come to recognize a pathological distinction between Beri-beri and other, clinically, somewhat similar affections, *e.g.* epidemic dropsy and the peripheral neuritis following the excessive use of alcohol (as described by Lt.-Col. Mc Gill, R.A.M.C.) in which rice could generally be eliminated as a possible ætiological factor. Now, thanks to the evidence of Col. Kenneth Macleod, I.M.S., Lt.-Col. McGill, R.A.M.C., Dr. Benjamin and others, that we are in a position to recognize Beri-beri as a distinct affection, prophylaxis, in the light of evidence as to its causation, should be a simple matter, the only measure necessary being the avoidance of *stale uncured rice*. Dr. Braddon states that when cured rice cannot be procured, and yet rice must be used, Beri-beri may be avoided if only a moderate amount be given for a daily ration and this be freely diluted with proteid and fatty food. “Curing” consists in soaking fresh raw grain for one or more days in water (often till germination commences), then rapidly steaming till the husks burst, then partially drying, and finally milling lightly to remove the husks. The result is a yellowish, semi-translucent toughened and perhaps partly malted grain on which the perisperm and the surface seed cells are preserved intact.

*Leprosy.*—After enumerating the various media in which he had failed to obtain Hansen's bacillus in pure culture, Professor Shiga announced that his experiments with lecithin had so far been encouraging and led him to expect favourable results in the future. Professor Unna described methods of differential staining of leprous tissues for demonstrating the effects of treatment, &c., by comparing the numbers of dead and living organisms, each class being recognisable according to different staining reactions. Professor Deycke Pasha contributed a paper describing the rationale of his Benzoyl Nastine treatment of leprosy, the former agent—in the form of benzoyl chloride—having the effect of removing fat from the lepra bacillus, and the latter—the active principle in cultures of *Streptothrix leproides*—acting as a carrier, without which the former would, through its activity, enter into combination with other organic substances in the body, and never reach the lepra bacillus. The evidence in support of the treatment from the Persian Gulf and different parts of India was sufficiently abundant to justify very much more extended trial of the method than has hitherto been employed.

*Sanitation in India.*—The papers and discussions in this department dealt principally with water-supplies, the more extended application of modern sanitary methods to India and questions of sewage disposal. With regard to the first, among others, papers were contributed by Drs. Thresh, Matthew, Dadachanji, Nesfield and Katrak. Valuable suggestions will be found dealing with sources, methods of filtering, purifying agents, standards of purity, storage, service, protection from contamination on ships, &c., &c. As to the second, measures were indicated as necessary for improving the Sanitary condition of Bombay, for the introduction of a Sanitary policy in connection with Hill stations, and, generally, for the establishment of an improved sanitary organization throughout India. With regard to sewage and refuse disposal, contributions were read from Messrs. Fowler, Dibdin, Maxwell, Scott-Moncrieff, Drs. Cursetji and Master and others, in the course of which the relative merits of different systems, *e.g.*, septic tanks, discharge into the sea or tidal estuaries, slate beds, hopper barges, incinerators, reclamation, &c., &c., were fully gone into. Although, in the opinion of some, septic tanks had not realized the expectations originally entertained, the more general impression seemed to point to their being destined to take a very prominent part in sewage disposal in the future. Dr. Newell suggested, in controversion of the prevailing idea that purification depends on the action of aerobic and anaerobic organisms, that facultative microbes also take a part in the process, and considered that the best results would be obtained by having (1) a grit chamber for separation of inorganic debris; (2) a septic tank for anaerobic action to prepare the sewage for such subsequent action; (3) upward filtration through contact beds for action of facultative organisms; (4) downward filtration through contact beds for aerobic action; and (5) passage upon percolating filters or, instead, land filtration. Mr. G. B. Williams, Sanitary Engineer, Bengal, replying to Mr. Fowler's paper on sewage discharge into tidal estuaries, referred to the possible pollution of shell-fish by the process being a drawback. Dr. Turner referred to the trial about to be given by the Corporation of Bombay for burning of rubbish by the Horsefall Incinerator, an appliance which is working successfully in other tropical cities; he gave it as his opinion that on the whole a good system of incinerators would be more economical than the procedure now adopted in Bombay. Dr. Nair pointed out that the calorific power of dry rubbish in India, being inferior to that in England, made the relative economic values of the process different in the two countries. Drs. Cursetji and Master read a paper on the chief defects in the present modes of disposal of sewage and town refuse in Bombay, suggesting possible remedies.

*Naval and Marine Hygiene.*—Dr. F. G. Clemow, British Delegate on the International Board of Health at Constantinople, contributed a paper on the *Haj Pilgrimage from India and the International Sanitary Conventions*. While he bore flattering testimony to the manner in which the Government of India carried out their obligations in this connection, he suggested reimposition of the period of quarantine before departure of pilgrims from India which had recently been abolished. In view of the measures that are taken in Bombay, the length of the voyage, the preparations at Perim and the compulsory quarantine at Camaran, Col. Crimmin and Dr. Blackmore considered that Dr. Clemow had by no means made out a sufficiently strong case to justify this suggestion; the latter adding that the Turkish authorities might well be asked to take steps within their own borders to obviate breeding places for cholera, small-pox, etc., the insanitary condition of Mecca and Jedda being notorious, and it being well known, as pointed out by Col. Crimmin in a separate paper, that much of the small-pox in India is started by returning pilgrims from the Haj.

Fleet Surgeon Clayton, R.N., contributed a paper on the *Incidence of Tropical Diseases among Naval Men in Warm Climates*, illustrating the influence of the sailor's environment upon causation or prevention of tropical diseases, considering each with respect to known methods of convection; e.g., as he is largely protected from the attacks of mosquitoes and other biting flies, is usually provided with an absolutely pure water-supply, has his food well supervised, and prepared in circumstances which militate against specific contamination, the sailor remains practically immune to affections common among those not so protected, such as Malaria, Plague, Yellow Fever, Kala Azar, Trypanosomiasis, Typhoid Fever, Dysentery, &c., &c. The disposal of his excreta, moreover, being simple and perfect, and boardship conditions in the tropics entailing long exposure in the open air, his resistance is greater than that of shore dwellers. On the other hand, he is subject to a far greater degree of overcrowding and more trying temperature conditions than those on shore, and his supply of fresh water for ablutionary purposes is distinctly limited; these latter conditions naturally predispose him to heat stroke, skin affections, gastric irritability with pyrexia, &c., and Dr. Clayton suggests suitable means of prophylaxis. Dr. Blackmore read a paper on the *Carriage of Plague by Sea*, his main contention being that docks in infected countries should be kept free from rats (1) by using traps, (2) by employing the natural enemies of rats, e.g., dogs, cats and ferrets, (3) by poisoning, (4) by introducing a fatal infectious disease among them, and (5) by fumigation with poisonous or irrespirable gases. Several papers were contributed relative to the shore and boardship environment of mariners, in the course of which Fleet Surgeon Clayton referred to the necessity for improved ventilation on British men-of-war, adding that a supply fan connected with the hollow masts seemed to be the only solution. He considered the prevalence of tonsillitis as an index of overcrowding. With regard to water on vessels he urged that the drinking supply should be distilled and distributed in a distinct set of pipes from those used for shore water. Dr. Bawa (Colombo) suggested improved measures for the prevention of the spread of infectious disease on boardships; Dr. Shroff (Bombay) referred to the existing regulations for the prevention of the spread of plague by sea, proposing modifications, and Capt. Jones (Med. Dept., U. S. A.) read a paper pointing out methods for improving the sanitary condition of the Army Transports of the United States.

*Tropical Surgery.*—Most of the papers in this Section dealt with Ophthalmic Surgery and operations for Urinary Calculi. Perhaps one of the most practical lessons gleaned from the deliberations on the former was that obviously indicated by Major Kilkelly's observation while inspecting mofussil dispensaries, viz., that the Atropine bottles were mostly nearly empty while the Eserine ones were mostly unopened. It is hoped that his suggestions in this connection will bear fruit, for there can be no doubt that many cases of glaucoma have in the past escaped detection and proper treatment. With regard to cataract extirpation, an animated (if somewhat one-sided) discussion took place on the relative merits of the intra and extra-capsular methods. The exponents of the former or Smith's method, including Major Smith, I.M.S., himself, brought forward facts and statistics in its favour which could leave no doubt as to its greater advantages over the latter, all things being equal. The "equality of all things," however, is at present the moot point, for, to refer to only one weak spot in the method, freely admitted by Smith and his followers, the operator is very largely dependent for his success on his assistant, which is not the case in the extra-capsular operation. It will not, therefore, be a matter of great surprise if the latter operation continues to hold its own indefinitely. Again a somewhat pertinent suggestion by Major V.C.B. Bennett, I.M.S., offers food for investigation and reflection. He considers, for reasons given, that the class of cataract met with in the districts in which the operation has been so successful might render the cases more amenable to intra-capsular extraction than elsewhere. Time and growing experience will clear up these and other points. In the meanwhile nothing but unbounded admiration can be felt towards the brilliant surgeon who has perfected the method, who numbers his operations by tens of thousands where many in other countries who have reached fame are proud of their thousands, and to whom operators now come from all parts of the world to be instructed. Among the papers on Ophthalmic Surgery were one on Trachoma, Panus and Corneal Ulcer by Major Smith, several connected with Smith's cataract operation by Captains McKechnie, Oxley, Lister and Gidney, Drs. Jamison and Bhandari and Hospital Assistant Mathradas, and one on Incision of the Eye by Captain McKechnie. Among those dealing with *Urinary Calculi*, Surgeon-General Stevenson, I.M.S., read a paper upon Perineal Litholapaxy in children, as originated and practised by Colonel Keith, I.M.S., one of his predecessors in the district (Hyderabad, Sindh) in which he acquired the bulk of his great experience in Urethral Surgery. In this, as well as in a paper on the same subject by Major Evans, I.M.S.,



valuable hints will be found regarding the technique of so valuable a procedure in cases inoperable per urethram without incision. Major Evans bases his suggestions upon a series of observations made upon the cadaver for ascertaining important land-marks and their mutual topical relationship in different attitudes of the body. In a note upon Litholapaxy in India, Colonel Keegan, I.M.S. (retired), urged that, in the case of boys, short canulæ should be employed, and smaller exhausting bags than those used for men, adding that canulæ should have steel stylets. Lt.-Col. Durrell Pank contributed a paper on the same subject, giving the results of his experience of some hundreds of cases. Major Smith, I.M.S., contributed papers on Rhinoplasty, Excision of the Upper Jaw and the Gasserian Ganglion and the surgical treatment of diseased lymphatic glands, describing modifications on old methods, introduced by him, and practised with success. Papers upon Elephantiasis of the Scrotum, Epipoplexy, Spinal Analgesia and the treatment of Hydrocele, Ascites and Elephantiasis by artificial lymphatics were contributed by Major Gabbett, I.M.S., Captain Novis, I.M.S., Captain Chalmers, I.M.S., and Major Ashton Street, I.M.S., respectively. Major V. B. Bennett introduced a discussion upon Abdominal Surgery with special reference to Hernia and, among others, Dr. Wanless (Miraj) read a paper on Gastro-Enterostomy for Gastric and Duodenal Ulceration, and Dr. Ernest Neve (Kashmir) one on Epithelioma in Kashmir, one cause of which he has demonstrated to be the use of the kangri or portable fire basket.

Section VI comprised, generally, an exhibition of medical, surgical, sanitary, building, ventilating, disinfecting and fumigating appliances, &c.; drugs, foods and toilet requisites; hospital and operation room furniture; model buildings; models of improved areas in Bombay; scientific instruments; medical and scientific publications, &c., &c. There was also a museum of pathological specimens, and series of demonstrations including microscopical and lantern slides of interesting specimens, diagrams, charts, microscopical specimens, &c., &c. On the second day a *Conversazione* was held in the Exhibition grounds between 7-30 and 11-30 P.M., to which all members were invited. After the Sessions the Exhibition, bereft of its purely technical characters, was popularized by the addition of carefully selected side-entertainments and thrown open to the general public for some weeks.

The proceeds (*vide* Financial Statement, Appendix III) were converted into the nucleus of a Fund to be known as the "Miss Clarke Memorial Nursing Fund (founded by the Bombay Medical Congress)" which will be held in Trust by the Bombay Branch of the Countess of Dufferin's Fund, the revenue being administered by them for furthering the aims of nursing in the Bombay Presidency proper.

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## Appendix I.

## MEMBERS OF THE BOMBAY MEDICAL CONGRESS.

HIS EXCELLENCY THE GOVERNOR OF  
BOMBAY ..... PRESIDENT.

## A

Abbott, Capt. S. H. L., I.M.S., Punjab.  
Achaya, Dr. H. M., Bilka.  
Achyuta Rao, Hospital Assistant P. S., Bangalore.  
Adhyaru, Dr. S. G., Bombay.  
Adie, Lt.-Col. J. R., I.M.S., Punjab.  
Advani, Dr. B. G., Karachi.  
Advani, Dr. P. H., Hyderabad, Sind.  
Ahmed Dewjee, Khan Saheb Hajee, Bombay.  
Ainsworth, Major H., I.M.S., Punjab.  
Ajaising, Hospital Assistant, Dharamshala, Punjab.  
Ali, Dr. Fachat, Saitabad, Hyderabad (Deccan).  
Allarakhiabhai Kanjee, Esq., Bombay.  
Allen, Dr. B. J., Baroda Camp, Gujarat.  
Allison, Capt. A. A., I.S.M.D., E. B. and Assam.  
Anant Rao, Asst. Surgn. D. G., Poona.  
Anderson, Lt.-Col. J., I.M.S., U. P.  
Anderson, Capt. J., I.M.S., Bombay.  
Anderson, Capt. S., I. M. S., E. B. and Assam.  
Anderson, Capt. W. M., I.M.S., Rajputana.  
Anglo-American Pharmaceutical Co., Ltd., England.  
Anjaria, Dr. R. G., Mangrol, Kathiawar.  
Anklesaria, Dr. B. K., Poona.  
Anklesaria, Dr. D. E., Ahmedabad.  
Anklesaria, Dr. H. N., Bombay.  
Anklesaria, Dr. M. D. E., Ahmedabad.  
Anklesaria, Dr. M. T., Bombay.  
Ansari Hakim Mahomed Karim, Bombay.  
Ansari, Hakim Mazhar Karim, Bombay.  
Antia, Dr. M. J., Bombay.  
Armstrong, Asst. Surgn. R. G., R. I. M. S. "Hardinge".  
Arnab, Lt.-Col. H. C. L., I.M.S., Bombay.  
Atal, Capt. P. P., I.M.S. Madras  
Atarchand, Rai Saheb, Ludhiana, Punjab.  
Atkins, Dr. T. E., Sylhet, Bengal.  
Austrian Lloyd's Steam Navigation Company the Agent, Bombay.  
Avari, Hospital Assistant C. R., Bombay.  
Ayles, Capt. E. V., R.A.M.C., Bombay.

## B

Babington, Capt. J. W. H., I. M. S., Tientsin.  
Bachoojai Rustomjee, Dr. (Miss), Bombay.  
Bahadurji, Mrs. D. N., Bombay.  
Bahadurji, Dr. J. N., Bombay  
Bahadurji, Dr. (Miss) Piroja Bombay.  
Baird, Capt. R. F., I.M.S., U. P.  
Baket, Capt. M., I.M.S., Burma.  
Bakhle, Major C. R., I.M.S., Bombay.  
Bakshi, Dr. R. R., Rajkote.  
Balabhai Maganlal, Dr., Baroda.  
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- Zerwick, Rev. Dr. N., Gadag.



## Appendix II.

### OFFICIAL REPORT OF PROFESSOR MUSGRAVE, DELEGATE, PHILIPPINE ISLANDS.

31st March 1909.

TO THE DIRECTOR,

BUREAU OF SCIENCE,

Manila, P. I.

Sir,

In compliance with the enclosed order, I have the honor to report as follows:—

I left Manila January 16th and arrived at Bombay February 19th; left Bombay March 3rd and arrived at Manila March 23rd.

#### THE CONGRESS.

In scope, material presented, and in attendance, this was surely the most successful Congress dealing entirely with the problems of tropical medicine which has ever been held. The conception of the Congress as well as a large part of its very great success was due to the President, H. E. Sir George Clarke, Governor of Bombay. The very complete and satisfactory organization and successful programme was largely due to the efficiency and zeal of the General Secretary Col. W. E. Jennings, who was ably assisted by Mrs. Jennings.

The scope of the Congress was very comprehensive, embracing practically the entire field of tropical medicine and sanitation. The opening exercises were held in Convocation Hall of the University of Bombay and were presided over by H. E. the Governor. This session was more or less general and the large hall was packed with members of the Congress and their friends. The opening address was delivered by the President of the Congress, who gave a most excellent review of the history of modern medicine. Surgeon-General Stevenson gave a history of the organization of the Congress and Surgeon-General Sloggett proposed a vote of thanks to H. E. the Governor for his interest and aid, without which the Congress could not have been a success. The distribution of appropriate silver medals to the foreign delegates by H. E. the Governor concluded the opening ceremonies.

#### SCIENTIFIC SESSIONS.

The scientific sessions were divided into six sections and were all well attended and what is more important, most of the papers presented aroused considerable discussion.

A list of the papers presented at the Congress is shown in the programme, a copy of which is enclosed. Obviously, it is impossible here to note more than a few of the most important points brought out in the discussions.

*Cholera*—Major Rogers emphasized the advantages of the intravenous injection of hypertonic salt solution in the treatment of this disease, and the general tenor of the discussion of his paper was strongly confirmatory of his observations.

*Varicella*.—The discussion strongly favored the preservation of vaccine lymph in lanolin as having decided

advantages over the more usual method of preservation in glycerin. The collapsible screw-capped tube is largely used in India as containers for vaccine and through the courtesy of Surgeon-General Benson your delegate was furnished several sample tubes of this type filled with lanolinated vaccine as furnished by the Government Institute at Madras.

*The Dysenteries* did not receive the amount of discussion which their importance in tropical medicine demands. Appendicostomy as a method of treatment in intractable cases was rather strongly endorsed and the reported observations were more strongly favorable to it than our results in Manila would warrant. Amœbic infections of the colon apparently are not so common in India as they are in the Philippine Islands.

*Typhoid Fever*.—The strong points brought out in this discussion were those showing the advantages to be derived from antityphoid vaccination both in decreasing the incidence of the disease and in mitigating its type in those who become infected after vaccination.

*Malaria* was quite fully discussed from the standpoint of prevention as well as its relation to black water fever. Major R. Ross of Liverpool was present and led the discussion relating to practical measure for the eradication of the disease from infected localities. Many interesting points were brought out concerning the best methods of determining the incidence of the disease and the value of various sanitary methods. Major Ross called the attention of the Congress particularly to the value of the "Spleen Index" in children as a most valuable guide in determining the prevalence of malaria. This method was used extensively by Ross in his Campaign against malaria in Mauritius.

*Plague* is a particularly important subject in India and was fully discussed. Prof. Kitasato's paper was largely confirmatory of the previous reports of the Indian Commission's claims that rat fleas are the principal transmitting agents of the disease. There was no question raised as to the value of anti-plague inoculations, the interested and experienced members of the Congress apparently accepting the advantages of such inoculations as a proved fact, and they should be employed where possible. Considerable difference of opinion existed regarding the best general measures applicable for the eradication of plague from infected localities. However, the use of antiseptics as generally employed was almost unanimously condemned as being a useless expense.

*Leishman-Donovan* bodies and similar parasites received considerable attention without showing any very great gain in our knowledge regarding the subject during the past year. Dr. Row, of Bombay, exhibited cultures and preparations from an organism of Oriental sore, showing several stages including a flagellate stage.

*Bertheri* received considerable attention. Braddon furnished a strong paper in support of his well-known hypothesis of white rice transmission of the disease, and I have since seen the advance sheets of a similar report from Dr Frazer of the Kuala Lumpur laboratory which contains the strongest evidence yet brought forward in support of this hypothesis.

*Leprosy*.—The papers and discussion of this subject were mostly devoted to considering the virtues of the Nastin treatment of the disease. One paper was decidedly favorable, but another was equally positive that the treatment is in no sense specific.

*Mycetoma* was the subject of three papers including that of your delegate.

Section four of the Congress was devoted largely to a consideration of general public health measures and section five was the surgical section. Neither of these were attended by me.

Section six was the pathologic exhibit and it was remarkably complete and well managed. There were 200 microscopes in use and hundreds of museum specimens and drawings of interesting tropical conditions.

One of the very instructive features of the Congress was the evening spent in listening to a series of popular lectures with lantern slide demonstrations upon important subjects.

#### SOCIAL FEATURES.

The social side of the Congress was very pleasant and the various functions took up practically all the spare time of the delegates.

I was a guest at Government House during the week of the Congress and wish to take this occasion to express my thanks and appreciation of the many courtesies shown me by H. E. Sir George Clarke, Governor of Bombay, and to the several members of his staff for the many pleasant hours spent with them.

The scientific portion of the Congress was followed by a kind of carnival which was to last several weeks and the funds raised in this manner are in part to be used in defraying the expenses of the Congress.

#### IMPRESSIONS OF THE T.R.P.

In a ten weeks' trip through the heart of the Far East, one must receive many impressions about many things; some of them good, more bad, and all to be taken for what they are worth and not to be regarded as established facts. My itinerary was briefly as follows: Hongkong, Singapore, Penang, Rangoon, Calcutta, across India, Bombay, and Colombo. In making this trip I travelled on five ships representing four different steamship lines and had a fair experience with Indian railways, and the total distance travelled was about 10,000 miles. Observations of use here are those pertinent to citizens of the Philippine Islands and all conclusions consciously or unconsciously are reached by comparison with conditions in our own country.

*Travel*.—The route travelled is a particularly interesting one, but I cannot conceive of any one ever wanting to make it a second time. The steamship accommodations are good, the railroads are fairly comfortable, but passen-

gers must furnish their own bedding and the hotels are exceedingly poor as a rule. The subsistence service to passengers on railways in India is the worst and poorest managed that I have ever seen. Thousands of tourists passing through India annually have resulted in building up a "tipping" system which for the uninitiated traveller is as bad as it possibly could be. The things to see are of two classes: the old historic landmarks and the modern results of England's stewardship. Both are wonderful.

*Tourists* pass through India by the thousands annually and the money spent by them must reach an enormous figure. This enormous tourist trade is largely the result of advertising; of course, there is much to advertise, but the advertising is very extensively and well done. It is not all paid for locally, for India has many arteries for disseminating information, such as the steamship companies, the railroads, the tourist agencies and many other large business concerns which have become financially interested and depend upon the tourist trade for a considerable portion of their income. The actual sights are in many ways not so interesting as those of the Philippines. For example, there is one "waterfall" in Burma which is extensively advertised and visited annually by thousands of visitors which does not begin to compare in beauty or picturesqueness with the one near Los Banos, to say nothing of those in Pagsanjan. I talked personally with more than 10 American tourists making long visits to the Orient and found but five of this number who had included Manila in their itineraries. Inquiry as to the reason for this brought out a number of reasons, but in more than 75 per cent. one or more of the following were given:—

1. *Lack of information*.—Large numbers of people think there is nothing of interest to see and there are no methods of enlightening them.

2. *Poor transportation*.—It is surprising how current the idea is that Manila can only be reached by small boats which encounter typhoons during almost every voyage.

3. *Bad hotels*.—This idea is very general and to a great degree unjustly so. I have heard dozens of people give this as one reason for not coming to Manila, when at the same time they were stopping at, and apparently satisfied with, a hotel poorer in every respect than any hotel in Manila.

4. *Unhealthfulness*.—The idea of the unhealthfulness of Manila is an extremely prevalent one and some of the stories told about it are simply amazing to one who knows the actual conditions. For example, I was assured by one party (and they showed a prominent States' paper for the authority) that there was at that time a big epidemic of typhoid at Manila. At that very time the city we were in was having ten to twenty cases a day, but of this they knew nothing.

On another occasion, and in a city closer home, a party was afraid to come because of cholera when on that same day there were actually 22 cases in the city where they were staying.

Several other minor points, such as climate, are occasionally given as reasons for not coming to Manila, but the above, and particularly 2 and 4, are the principal

ones. In thinking over these things the conclusion seems obvious that the principal difference between the Philippine Islands and other countries which have so many tourists is that: *We advertise our troubles to the world and don't advertise our attractions sufficiently, while the other countries advertise their attractions extensively and keep them in troubles to themselves.*

*Servires*—The British Colonial services appear to have advantages over ours—advantages which it seems to me are for the benefit of both the Government and the employee. These advantages relate to hours of duty, leave privileges, salary and, most important of all, to the maintenance of a retirement plan for long service and to other conditions which make the Indian service attractive as a *career*.

The daily hours of duty for Government officials and employees are considerably shorter in India than they are in the Philippine Islands. This standard of short hours has been reached by experience. It is not, as explained to me by a prominent Government official, any special concession to the employee, but it has been found actually to increase the efficiency of the service to such an extent as to prove economical from the standpoint of Government.

I am sure that medical men are practically unanimous in the opinion that Government office hours in the Philippine Islands are too long and not most advantageously chosen and that the extra effort thereby called out is one of the principal causes of frequent changes in personnel.

In India salaries and leave privileges are both more liberal for the same class of work than they are in our service. By far the most important advantage of the British Colonial service over ours is found in the retirement and pension system of the former. Under it the Colonial service is made a career and the expense of training and importing new men is used in pensioning old employees who have made the personnel of the service smaller and more efficient by giving to it their years of experience.

The sanitary problems of India are somewhat similar to our own. The diseases encountered are similar and there are even worse conditions of mixed population, natural filthiness, ignorance and tribal or caste prejudices to be met.

A great deal has been and is being accomplished, particularly about the larger centres of European population, but in large areas of dense native population progress is very slow and advancement made largely in spite of the people themselves. In many places visited by me the general conditions are simply appalling,—so bad that one wonders how any of the people remain alive.

Of the parasitic diseases, Malaria seems to be one of the most important and is now being dealt with along broad lines in several places.

Plague claims its hundreds of thousands of victims annually and its suppression under existing conditions is a problem of too much magnitude for any government without the thorough co-operation of the populace. Amœbic infections do not appear to be nearly so frequent as with us, due in part, no doubt, to the occurrence of a season of cold weather in the country. Even water and other so-called saprophytic types of amœbæ appear to be fewer than with us. On the other hand, several other forms of animal parasites are more frequently encountered and some, particularly the Leishman-Donovan parasites which are very prevalent in certain parts of India, have not been found in the Philippine Islands.

Research medicine is well represented in the British services in India and most successful work is being done along original lines.

The idea of temporary exchanges of duties between research workers and teachers in the Philippine and the Indian services was discussed with several of the authorities and I believe such arrangements could be carried out without much difficulty if it were thought to be advisable.

In conclusion, I wish to again express my gratitude for the very kindly manner in which I was received and entertained while in India.

Very respectfully,  
(Sd.) W. E. MUSGRAVE.

OFFICE OF THE GOVERNOR-GENERAL  
OF THE PHILIPPINE ISLANDS.  
MANILA, 29th December 1908.

Sir,

You are hereby designated as Official Delegate from the Philippine Islands to the Bombay Medical Congress to be held at Bombay, India, during the month of February, 1909, and directed to proceed to Bombay, India, at such time as will enable you to be present at the opening of said Medical Congress.

Your travelling expenses in going to, and returning from, Bombay and your actual and necessary expenses during your stay in Bombay will be a proper charge against the appropriation for the Bureau of Science.

Very respectfully,  
(Sd.) JAMES F. SMITH,  
Governor-General.

Dr. W. E. MUSGRAVE,  
Assistant Chief, Biological Laboratory, Bureau of  
Science, Professor of Clinical Medicine, Philippine  
Medical School, Manila.

## Appendix III.

*Bombay Medical Congress Balance Sheet showing State of Funds on 1st June 1909 and approximate State on 22nd June 1909.*

### STATEMENT A.

RECEIPTS.					DISBURSEMENTS.										
					Rs.	a.	p.								
Subscriptions and Donations	...	...	...	...	51,283	3	0	Miscellaneous (General)	...	...	...	...	2,224	12	10
Gate Money, Programmes, &c.	...	...	...	...	13,784	1	0	Advertisements	...	...	...	...	1,820	0	0
Rent from Exhibitors and for Side Shows	...	...	...	...	7,375	6	0	Establishment	...	...	...	...	310	4	0
Interest on Investments	...	...	...	...	790	9	10	Conveyance	...	...	...	...	406	0	0
Advertisements	...	...	...	...	3,831	0	0	Circulation of Proofs	...	...	...	...	1,367	0	10
From Exhibitors for Extra Lighting	...	...	...	...	386	0	0	Conversazione	...	...	...	...	1,159	12	0
Sale of Sheds, &c.	...	...	...	...	3,024	7	6	Exhibition Grounds	...	...	...	...	1,271	5	0
Sale of Medals	...	...	...	...	718	10	0	"    "    Wages (including Police)	...	...	...	...	3,367	1	10
Realization of Investments	...	...	...	...	22,497	10	11	"    "    Miscellaneous	...	...	...	...	8,010	7	6
								"    "    Lighting	...	...	...	...	7,820	13	6
								"    "    Buildings and Insurance	...	...	...	...	22,271	8	0
								Pathological Section	...	...	...	...	3,181	0	0
								Transactions	...	...	...	...	2,500	0	0
								Travelling and Out-of-Pocket Expenses	...	...	...	...	9,330	11	8
								Rent and Rates (Office)	...	...	...	...	406	0	0
								Medal	...	...	...	...	1,577	7	0
								Bands	...	...	...	...	2,614	4	0
								Fixed Deposit	...	...	...	...	10,000	0	0
								Purchase of Stock*	...	...	...	...	23,482	14	6
								Cash Balance	...	...	...	...	569	9	7
					1,03,691	0	3						1,03,691	0	3

\* Securities of Rs. 11,500 still in hand (*vide* Statement B).

### STATEMENT B.

ASSETS ON 22ND JUNE 1909.					LIABILITIES ON 22ND JUNE 1909.										
					Rs.	a.	p.								
Cash Balance as per Statement A	...	...	...	...	569	9	7	Transactions (about 150 extra Copies at Rs. 6-10-8 each plus Packing & Postage) about	...	...	...	...	1,200	0	0
Received since 1st June	...	...	...	...	458	0	0	Miscellaneous (Printing, Postages, &c., &c.), about	...	...	...	...	100	0	0
Due from Sundry Sources (probably Bad Debts), about	...	...	...	...	50	0	0	Balance, about	...	...	...	...	11,277	9	7
Securities in hand plus Interest due, about	...	...	...	...	11,500	0	0								
													12,577	9	7
					12,577	9	7								

Audited and found correct.

(Sd.) BHALCHANDRA KRISHNA, KT.

(Sd.) HERBERT E. WINTHER, MAJOR, R.A.M.C.

22nd June 1909.

W. E. JENNINGS, M.D., D.P.H.,

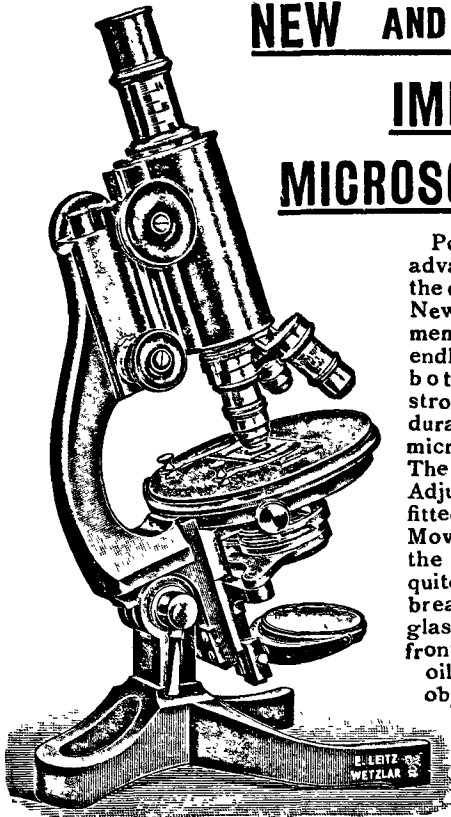
LIEUT.-COLONEL, I.M.S.,

*General Secretary, Bombay Medical Congress.*

*N.B.—The proceeds were converted into the nucleus of a Fund to be known as the "Miss Clarke Memorial Nursing Fund (founded by the Bombay Medical Congress)" which will be held in Trust by the Bombay Branch of the Countess of Dufferin's Fund, the revenue being administered by them for furthering the aims of nursing in the Bombay Presidency Proper.*

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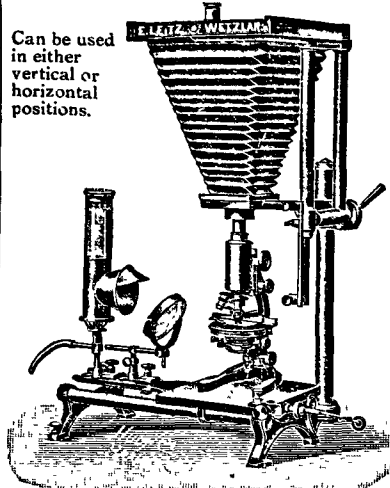
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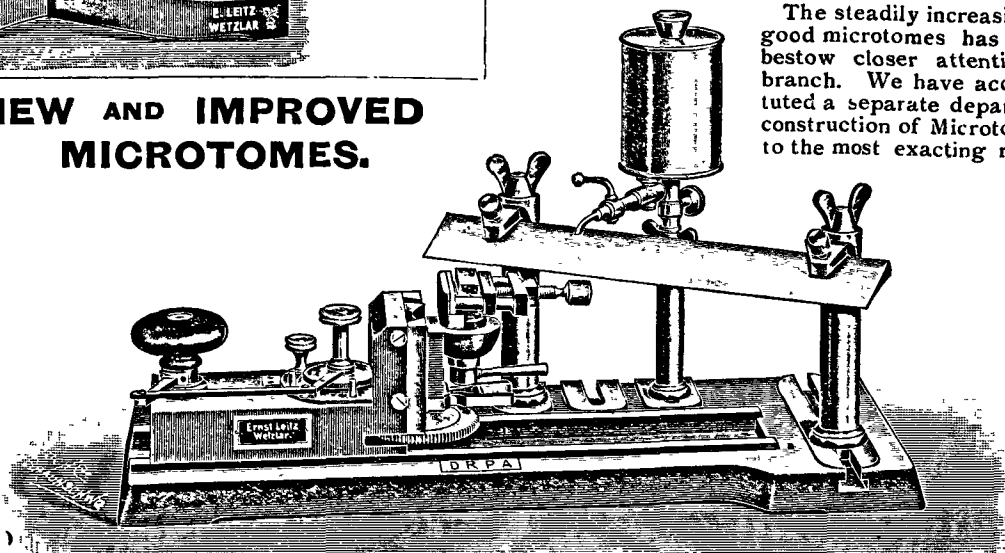
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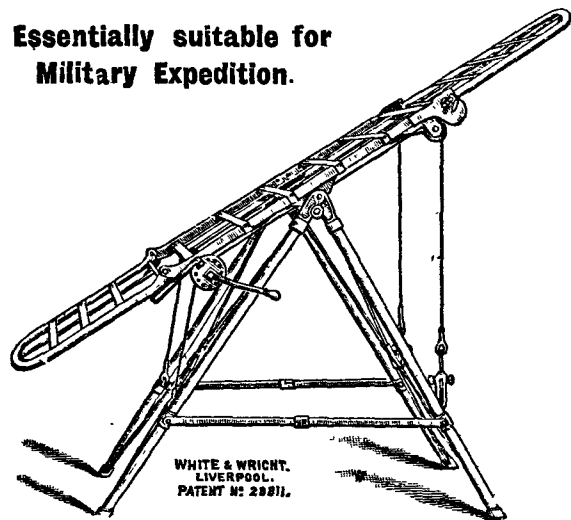
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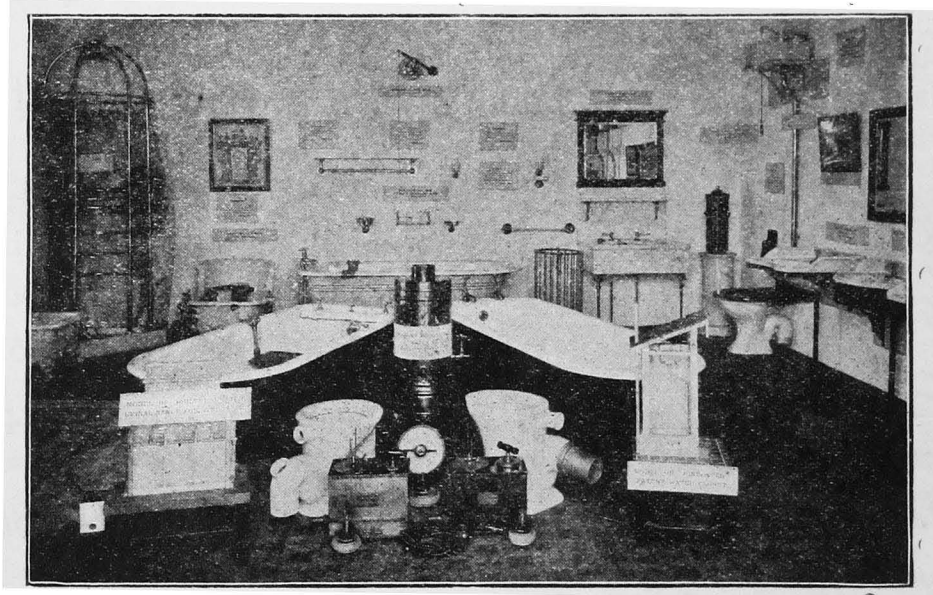
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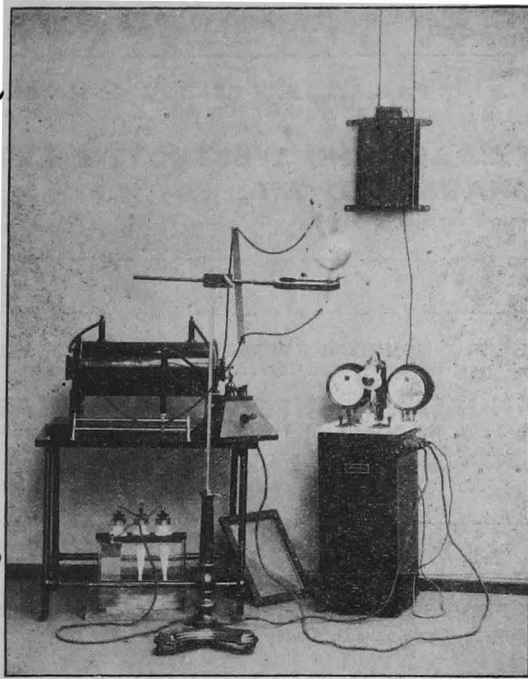
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