

EDUCATIONAL REFORMATION IN INDIA



BY
"EXPERIENCE"



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DEDICATION

I dedicate this book to those,—
whose *reason* is free from prejudices;
whose *knowledge* is not enshrouded with
wrong inclinations;
whose *conscience* is not dominated by the
influence of others;
who entertain strong *fellow-feeling* for all
persons;
who believe that they possess *very limited*
knowledge;
and who are actuated by the spirit of
self-sacrifice.

Author.

FOUNDATION OF TRUE EDUCATION.

The basic principles of true education are Truth and Love.

TRUTH

Who, when a truth to him is known,
Embraces it through smile or frown,
Who dares to hold it, though alone,
He truly prays.

—Annie Besant.

The first and last thing that is demanded of genius is love of truth. —Goethe.

The love of truth is the beginning and end of wisdom.

—R. A. Gregory.

LOVE

Little children love one another, I say this again and again, because if you do this, nothing more is needed.—St. John.

We must know that only he can teach who can love. The greatest teachers of men have been lovers of men.

—Rabindra Nath Tagore.

No obedience to moral rules can take the place of love, and that where love is genuine, it will, if combined with intelligence, suffice to generate whatever moral rules are necessary.

—Bertrand Russell.

Where there is Love there is Sacrifice as a natural consequence.

INTRODUCTION

AS an author I am in duty bound to explain my objects in writing this book. There are a number of books dealing with the manner in which education is to be imparted to the students in India, but I never came across with a book which treats of the methods, which should be adopted for national education of India. I therefore appear before the educated public with some of my ideas and suggestions regarding national education in all its branches. I believe that unless 95 per cent. of illiteracy in India be reduced to a great extent by mass education of the right kind, the status of the Indian people cannot be raised. Out of the 5 per cent. literate people, I think, only one per cent. (i.e. 1 in 20,000) has received school or college education. As regards technical education, Indian nation is most backward, since not even one in ten thousand seems to have received any such education of the right sort. I am not deluded by the pomp and glitter of the gorgeous edifices and electric lights of the big cities; nor satisfied with the appointment of some Indians to high Government posts or other responsible posts, and with the successful career of a few thousands of graduates. Until at least 25 to 50 per cent. of the population be made literate, and 5 per cent. be educated in technical arts, there can be little hope of national regeneration. Under the present so-called stringent Government budget, which is liberal only in military expenditure, we cannot expect to get any substantial help in the matter of mass-education or technical education. We have thus no other

alternative but to fall back upon our own resources, I mean, upon the self-sacrifice of the educated classes ; and not much on benevolence of the rich persons of India who are generally too miserly to help the cause of education. I have therefore considered it necessary to try to awaken the dormant self-sacrificing spirit of some of my readers. If at least, 5 per cent. of the readers be made wide awake to their sense of duty and responsibility in this national cause, my object in writing the book will be accomplished. I believe that if ten preachers or workers for national education be forthcoming, 100 persons will follow them ; and those 100 persons might generate the noble spirit in 1000 persons, and so on. The difficulty lies in getting 10 heroes or generals in this uphill task ;—while millions are ready to slide downwards through the path of idleness and luxury.

2. Let me now give a summary of the contents of the book. In Chapter I, I have delineated some broad principles of education, described proper uses of knowledge and drawn a distinction between useful and ornamental knowledge, after giving a short sketch of the three principles in man. I have assigned great importance to moral and religious training. In Chapter II, I have shown how English education made its advent in India. Chapter III conclusively proves that without Educational Museums, education is defective. It is a matter of wonder and regret that the book "*Educational Museums at the Educational Centres of India*" has not produced the desired effect on the mind of the heads of education department and universities. I hoped that the proposal regarding the establishment of Museums would touch their heart ; and that they would take active measures in the matter. But

my hope was frustrated. Still I hope against hope that the scheme will be soon appreciated and acted upon. In Chapter IV evidences and examples of famous persons are cited to prove that home-education can vie with university education in producing practical results. For the present, reformed school and college education is sufficient in India. In Chapter V, I have given a short description of the education system prevalent in London. From this there is much to be learnt and imitated. In Chapter VI, I have tried to show that prejudices are obstacles to all sorts of progress, even in educational reforms; and that educated men are not free from prejudices. In Chapter VII are described the different subjects of study and their comparative values. In Chapter VIII some reforms and improvements on important points are suggested; after assigning certain reasons for them. In Chapter IX four modern methods of education are advocated. In Chapter X the roles of different corporate bodies and experts in different arts and sciences are shortly hinted at. In these chapters I have presented some new suggestions before the educational authorities and leaders of society for their thorough consideration, and I entertain a hope that if they are found reasonable, they will be approved and acted upon. In this small book I have submitted only some hints and suggestions regarding the duties of different bodies and experts, for consideration of the public. It is left to the workers to form elaborate practical schemes for national education.

3. One main principle pervades the book; and that principle has its basis on the moral responsibility and self-sacrificing spirit of the people, without which national uplift is a mere dream. Although in social position and

in literary circles, I stand nowhere; but as I have drawn my strength and inspiration from reason and common sense, and have all along been guided by strong sympathy for the dumb ignorant millions, I still entertain a hope, though only a faint one, that my labours in my old age of 75 will bear some fruit. If my reasonings are sound, all sensible critics will at least approve my proposals now or hereafter, although a great mental courage and stamina are required to change the old track, and move in a new groove. I solicit the favour of my readers in pointing out such proposals which appear to them as unreasonable, giving reasons in support of their criticism. Any unfair criticism which is an outcome of long-established prejudices and predilections will not appeal to my mind.

4. Some of my ideas and suggestions might seem utopian to some persons; but if they calmly think, I hope they will agree, that advanced ideas might be forecasts of future events. The educated men had never dreamt that radical changes in departments of education, sociology, and government would happen in Japan, Italy, Germany, Russia, Turkey and Persia in such a short period as 20 or 25 years. Some might say that these reforms are only possible in independent countries. Even admitting the truth of their saying, I think that if the people of India be awakened by the Grace of God through the medium of great souls, they also can do wonders in a short time. If we believe in the benevolent dispensation of the wise and merciful Providence, who regulates the fate of nations towards onward march, we need not despair of the happy prospect of this great ancient nation, for despair is precursor of death or ruin. Our duty is to help ourselves with

suppliant mood before the Almighty Father and make great efforts according to our ability, the rest depends on His Grace.

5. I request the editors of journals and newspapers, or any persons who take interest in educational matters, to kindly review or criticise the book, and send a copy of the review or criticism to me for my information. I shall be glad, if they publish extracts from the book in the papers. Although I never look for the sale of even one dozen copies of this book, yet a price has been fixed, so that anybody might not ask for a free copy. It is published at a monetary loss simply with the hope of disseminating certain ideas, which I believe as correct, among the public for their consideration.

Author.

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EDUCATIONAL REFORMATION IN INDIA

CHAPTER I

SOME BROAD PRINCIPLES OF EDUCATION

(1) Proper Uses of Knowledge

The object of knowledge should be to mature wisdom and improve character, to render us better, happier and more useful, more benevolent, more energetic and more efficient in the pursuit of every high purpose in life.

—Smile's *Self Help*, p. 386.

There is a well-known saying, 'Knowledge is power'. Let us enquire how knowledge, which is a mental function, can be called power. When the mind is concentrated on a subject, it acquires energy, as is the case with the concentrated rays of the sun. When that energy of the mind is applied, by means of our physical organs or material instruments, to material objects, it can aid or obstruct material forces of nature. For example, with the help of knowledge men have generated tremendous energy by which heavy trains, steamers and aeroplanes are carried, like so many toys over land, water and air; men by means of guns and cannons have killed ferocious animals and bombarded strong forts, and harnessed electricity in doing wonders throughout the world. Let us always

remember that rightly directed knowledge produces beneficial results; and misdirected knowledge brings about evil results. It is no use giving examples.

Yet knowledge is not the main guiding principle of mind, but feeling and desire are the directing principles. Therefore, it is the duty of every reasonable man to act up to this general advice,—cultivate your head as well as heart. But besides knowledge and desire, man possesses a third thing which is the power of discrimination between right and wrong;—this power is the basis of morality. We find this distinctive moral feature in man when compared with animals. Man is superior to animals on account of his moral nature. As moral nature is based on love of humanity, it should be the guiding principle of knowledge. The great Incarnations of the world have preached this Love, but their so-called followers have well-nigh rejected their noble teaching; and are quarrelling with one another because they stick to outward customs which are non-essentials, and running after their selfish ends, suffer from endless miseries.

(2) Three Principles of Man

There are three distinct principles in man,—1st physical body, 2nd mind, and 3rd individual soul or spirit. According to the teachings of theosophy, there are seven principles, and according to Hindu *sāstras*, there are five *koshas* (covers). But as the generality of mankind cannot easily form clear ideas of these divisions,—so I have omitted them. Almost cent per cent of people cannot distinguish mind from spirit. They conceive that mind

has three functions,—knowing, feeling and willing. We *know* or perceive the objects of the material world by means of our five sense-organs, and then by mental processes remember those perceptions and combine them in multifarious ways and form conceptions. We *feel* various degrees of pleasure or pain on account of direct perceptions of objects, such as, heat or cold, light or darkness, sourness or sweetness, noise or music, and pleasant or unpleasant smell. We also feel subjective pleasure or pain on account of remembrances of mental impressions and also our attachment for those impressions. The third process of our mind is *willing*. Desire is an outcome of the above three functions. According to Hindu philosophy and teachings of seers, desire is the root of our actions in this world and hereafter. Desire is the main cause of our births and re-births. If anyone can root out desire, his spirit will be free from the bondage of mind and matter. The third principle of man is his soul or spirit. As far as my knowledge goes, most of the philosophers,—specially Western philosophers,—have not drawn any nice distinction between mind and spirit. They are two distinct principles,—but our mind acts under the influence of our individual spirit,—which is like a tiny ray of the Supreme Spirit (Supreme Father). Most of the philosophers think that the pure or the higher mind is the soul. But such is not the case,—both are diametrically opposite. The saints or sages of India have distinctly written that mind cannot know spirit. The knowledge of the mind and that of spirit are not only quite different,—as the knowledge of smell and sound are

different,—but they are of quite different nature. The cognizance of spirit by a spirit entity is indescribable (*anirbachaniya*). When a sense-perception, such as that of sweetness or melody, or even the different perceptions of sweetness and acidity by taste alone, are indescribable, how is it possible to describe the nature or functions of spirit? Mental philosophers are quite at sea when they have attempted to describe spirit. The essences of spirit and mind are quite different. Only spirit can know spirit, individual (*átmá*) or universal (*paramátmá*) spirit. All attempts by philosophers to know spirit with the help of their mind have failed and will for ever fail. So the study of mental philosophy is not useful, if it aspires to know what spirit is simply by mental culture. By the study of psychology we know the detailed workings of the mind. In order to know spirit we must stop the activities of the mind and awaken the spirit-centre by spiritual practices under the guidance of One who has awakened His spirit-centre, *i.e.*, spiritual consciousness by spiritual culture, or with the help of an Incarnation from the spiritual region. Man is the highest being in this world, because he has the capacity in him to know his individual spirit and ultimately the universal spirit. One man in a million has the *desire* to know spirit (*átmá*) or self,—what is perfected after innumerable births and rebirths. I have introduced this subject here to show that the highest object of man should be to know his spirit and the supreme spirit. Now let us turn our attention to the culture of his body. The rest of the book deals with the education of the mind.

(3) Culture of Body

A. As there are various aspects of this kind of culture, I have devoted a separate paragraph to each. Let me first give two quotations:—

- (a) Sound body and sound mind are the best means for attaining the four objects,—*dharma* (righteousness), *artha* (wealth), *kāma* (fulfilment of desire), and *moksha* (salvation).—Ayurveda.
- (b) The laws of health can no more be broken with impunity than can the law of gravitation.

—‘Discovery.’

Everybody without exception should have some knowledge of physiology and the rules of health and hygiene. Every Indian should be taught what he should eat and drink to keep his body and mind efficient. Rules of sanitation must be taught to every student in India, and he should be urged to follow those rules. Suitable books on these subjects should be published and regularly studied by the students, popular lectures with illustrations, pictures or models, should be delivered to all, literate or illiterate, males or females.*

B. *Suitable Exercise* according to age, sex, state of health, different conveniences and circumstances, is an important thing for the preservation of health. If there are facilities for physical games or sports, students should

*16,700 boys and 524 girls were medically examined during the last few years on the initiative of the Public Health Department of Bengal. Of the total number examined 67 p.c. were found to be suffering from bodily defects and 14·7 p.c. from eye troubles.

practice gymnastics, swimming, riding, cycling, running, dancing, rowing, wrestling, boxing, hockey, cricket, football, etc. Otherwise, when there is paucity of money, field or time, other suitable exercises should be regularly practised at home or school, such as, dumb-bells, barbells, clubs, *daunds*, *buithak*, *kaladdi*, etc. I highly deprecate the playing of games for betting like horse-race gambling. Although the spirit of competition is not bad, yet it is unnecessary to spend large amounts of money on students for moving about to different distant places, even to different Provinces for winning games. Sports are good, and healthy competitions are good, if their prime object of improving physique and health is attained. I would prefer the offering of prizes to students or outsiders, who can exhibit better physique and health, which are so important requirements for fighting out the battle of life. Drinking of intoxicating liquors should be discarded in developing the body. Nutritious foods should be given to all students, and specially to those who play vigorous games. The present rage of the poor students living in the hot climate of India to imitate *in toto* the costly vigorous games of the cold climate of England is not a desirable thing. Several schools or colleges of a big city can jointly erect halls and engage teachers for teaching physical exercises. Books and pictures relating to exercises should be used by students, and charts and photographs should decorate the halls. There should be equipment of apparatus for physical exercises.

C. *Music*.—Students should learn to sing, and if possible, to play on musical instruments. If convenient,

consorts of school or college students should be formed. Vocal music along with dancing and instruments or without them is a very rhythmical and enervating exercise which gives a tone to the lungs, and agility to other organs of the body. Music is not merely a nice recreation for the students, but it has health-giving and curative effects. Chorus music is inspiring. Music is the best form of fine arts.

There are some exercises and movements, such as, running, marching, skipping, jumping, etc., which can be performed rhythmically with advantage, and occasional music will add to the pleasure of the children.—*England's Board of Education Physical Training Series No 5.*

(4) Kinds of Knowledge

Knowledge can be broadly divided into 4 kinds. *Mischievous* knowledge can be disposed of in one sentence by examples:—the art of begging, pick-pocketing, theft, cheating, forgery, deceiving by false documents, etc. Let me now give some examples of *useless* knowledge:—Counting the hair of a horse or the leaves of a tamarind tree; learning the ancient histories of Assyria or Equador: how many times the word 'God' or 'Lord' occurred in the Bible; etc. Useless knowledge is not beneficial to its possessor or the public. Examples of *ornamental* knowledge can be easily cited. The fine arts of painting, sculpture, jewellery, embroidery, etc. are the honest means of earning money. They help the cultivation of fine taste and artistic skill of men. Schools of fine arts and music are necessary for the equipment of men. But during the times of famine, plague, national calamities, etc., necessary

articles of intrinsic value cannot be produced by the use of ornamental knowledge. In consideration of the groaning poverty, periodical famines, ignorance of the masses, and similar other deplorable conditions of the people of India, *useful* knowledge should be imparted to the people on the subjects of health and hygiene, evils of intoxicating drinks and drugs, agriculture, manufacture of useful articles, uses of tools and machines, breeding of healthy cows, plantation of fruit-trees, evils of bad customs, disastrous effects of ill-feelings and animosity between Hindus and Mahomedans, between different divisions and sub-divisions of castes, etc. All educationists of India should, individually and jointly, try their utmost to find out, or rather create, some useful work for themselves and the young men. If they fail in their attempt they will discover the cause of their failure and they will try to remove the causes.

(5) History of the Past and the Present

I think that it is not necessary to prove by facts and arguments that knowledge of the history of the present state of India on various aspects such as education, health, industries, etc., is far more important than knowledge of the past India. Schools, colleges and universities should give more importance to it than to its past history. Ancient histories of other countries are comparatively less important than their present histories. The British nation has not become so great by the study of history, nor has the United States become the first power by such study. The half-civilized Japan has risen

so high in course of 100 years by the study of the machines and manufactures of the European nations and mighty America. A century ago the study of history was little cared for in England. When poverty and disease are devastating a family, it would be quite unbecoming for the head of the family to study the old history of the family. If we compare the Indian nation to a big family, the people should first learn its present state before studying its past history. The students should be taught the present statistics of India, its economic gains and losses, commercial products, trades and manufactures, and be warned against the evil habits and customs of the people, and the great extent of the use of intoxicants, which are ruining the nation. They should also be versed in the present mode of administration, systems of education in India, England, Germany, United States of America and Japan, etc., etc. The teachers and students of India should have knowledge of the loss in time, money, energy, health and efficiency of the people of India resulting from a number of evil customs, such as child-marriage, polygamy, marriage-dowry, gamblings, horse-race gambling, usury, obscenity, smoking, manufacture and sale of intoxicants and adulterated food stuff, taking opium, *bháng*, *gánjá*, and *charas*, religious fanaticism and hatred, racial animosity, burial custom, uncleanly habits regarding body, home, dressing, use of such ornaments as are against hygienic rules, and a large number of similar evil customs. Some persons might put a question to me, what is the utility of such knowledge? My reply to them is

that if some self-sacrificing men of noble nature know the actual state of miseries of the people in different parts of India, they can take active part in their amelioration. We cannot impose the conditions of the past on the people of the present. Of course, we can gather educative lessons from the events of the past. For example, some nations decayed on account of luxury and indolence; several nations perished owing to the declarations of iniquitous wars by powerful nations over weak nations; selfishness and cruelty of dominant nations and aspiring kings have ruined the subjugated people; just aspirations of conquered people have been subverted by the conquerors, etc. What was done, was done. If you calmly study the present history of nations, you will find the same thing repeated over and over again, and bearing the same evil results. We Indians, as a subject nation, should try our best to set our houses right. Although, at present, the British Government do not see eye to eye with us in respect of our progressive march in some of our laudable attempts, let us hope they will soon realize the unwisdom of their present wrong retrograde policy and then grant us necessary facilities for advancement without obstruction. Let me give a concrete example, to illustrate this idea. Government is getting about 25 crores of rupees for the monopoly of sale of intoxicants, and the people of India are losing thrice or four times the amount for use of intoxicants and its attendant evils. The Government has become blinded by this vast amount of revenue derived from this nefarious trade and for the last 50 years has been setting up outwardly plausible pleas

for illicit manufacture of intoxicants and that they do not like to curb the liberty of the people to drink or smoke at pleasure. The religious teachings of the Hindus, Mahomedans, Christians and Baudddhas are against the uses of intoxicants,—especially intoxicating drinks. Unlike the people of England and United States of America, more than 90 per cent of Indians would vote for total abolition of the pernicious trade. If the Government gave to the people the power or facility to use their discretionary power to stop the detested traffic, I hope in four or five years, India will be free from the tentacles of intoxicants. If the educated persons have knowledge of the present evil customs and try to root them out, they can make some progress [in the matter in their lives. If they have a strong desire for the uplift of the Indian nation, they will succeed a great deal in their future births.

(5) Anthropology

It is literally the science of man, secondarily, science of the human organism (which might be found in physiology); in a wider sense, it is the science of man in relation to physical character, distribution, origin and classification of races, environmental and social relations, and culture. It is a nice subject. But it is our duty, first to study physiology, then the rules of health and hygiene, and at last we should study the physical and social defects of ourselves, our family members, inhabitants of neighbouring localities, districts and provinces. Gradually, we can go to the habitations of aboriginal tribes of India for study or read the present descriptions of their

manners and customs in books, and keep their dresses, ornaments, utensils, instruments, etc., in Educational Museums. If the educated people can reform the manners and customs of our homes and districts in their life-time, hundreds of districts will be reformed thereby in course of time. This is the sure practical method of reforming India in this respect. There is no need of spending money to impart theoretical or practical knowledge on the subject in colleges or universities. Educated persons who take interest in the matter can study the books at home, and pass university examinations and get degrees. Rich universities of foreign countries, such as, London, Oxford and Cambridge, can afford to maintain chairs for this subject. Occasional lectures in Educational Museums with the help of the necessary exhibits are sufficient. In the Museums we should keep some heavy, uncomfortable, and insanitary ornaments and dresses of the aboriginal tribes, as well as those of the foolish or ignorant village women of India, or other countries, in order to generate in the mind of the rising generation a great dislike for them and a desire for teaching the women to leave them off. Gradually we can approach the aboriginal tribes and reform them.

(7) Antiquities

Antiquities are the relics, monuments, inscriptions, etc., of ancient times. *Archaeology* is the study of antiquities; it is also the study of the art, customs, etc., of ancient people; as shown in their monuments, relics, etc. *Numismatics* (science of coins and medals).

Epigraphy (science of inscriptions), and *Paleography* (study of art of deciphering ancient inscriptions or writings) are principal branches of archaeology. Some educated persons have a fancy for the science. They have made investigations and written books on them. They have time and taste for these things. I think that only 1 p. c. of the 1 p. c. educated persons of India (that is 1 in 10,000 persons) are inclined towards it. The rich English or American universities have created chairs for these subjects. The Oxford University has chairs for Assyriology (history of the ancient Assyrian or, widely, the Babylonian nation), Byzantine Language (language of Constantinople), Egyptology (the science and study of Egyptian antiquities), Exegesis (critical explanation of Scriptures), Papyrology (science of the writing on papyrus, the pith of this plant, sliced and pressed into a writing material by the ancient Egyptians, Greeks and Romans). It is a happy sign that very few Indians take active interest in these subjects. I admit that these subjects have their utility in historical researches. But I think that even the archaeologists would not assign more than $\frac{1}{4}$ p.c. value to their favourite science in comparison to values of all the departments of knowledge,—fixing the total value as 100. But our Government is squandering away thousands of Rupees every year in maintaining a Department and making collections of old statues, relics, inscriptions, coins, etc. If this money is utilized in imparting more useful knowledge to the poor students and inhabitants of India, ten-fold benefit can be secured. Goodbye to old statues and buildings; *mandirs* and *masjids*, earthen,

stony or metallic utensils of old; uncouth ornaments and dresses; etc. Such antiquated things are of very little use in our present daily life. Pictures and descriptions of some of them are sufficient to get an idea of them. Hungry Indians want bread to eat, and not old stony or metallic articles to look at. Poor Indians want current coins, and not ancient coins. In their stead, we should collect more pictures, models or originals; and the photographs, descriptions and particulars of modern improved, well-lighted, well-ventilated, beautiful buildings; nice sculptures, fancy ornaments, nice dresses, more useful tools, instruments, utensils, furniture, carriages, medical appliances, etc., etc., which supply the daily necessities of life and add to our comforts. They will expand our knowledge, broaden our outlook and direct our inclination in the right groove. But the people need not take the trouble of exercising their brains to gain knowledge of the things of antiquity. We should not think of imitating the university education of foreign countries with our scanty means, but we should try to imitate improved elementary education systems of the great nations of the world,—England, United States of America, Italy, Japan and Germany. I think that with necessary changes they can be introduced in India.

(8) Fine Arts

Fine Arts generally include Paintings, Sculpture and Music. I have already devoted one paragraph [sec. (3) c] to Music. Although I have taste and love for fine pictures and sculptures, I do not think it advisable to spend public

money in buying costly paintings for public shows. Let the rich men of India, who lavishly and indiscriminately spend money on public shows and who have very little practical sympathy for the necessary education of the students of India, give presents of valuable paintings to Fine Arts Galleries. *But I admit that the schools of Fine Arts are doing useful work and several successful students are earning their livelihood by such studies. If more students apply, let more similar schools be opened in big cities. Let the rich persons and such persons as have special liking or aptitude for such arts, devote their time and money to studying and practising fine arts. Museums should judiciously spend public money in imparting elementary knowledge of fine arts to the visitors. But at the same time let me express my conviction that under the present deplorable circumstances of India, time and money should be spent on educating the students and the people on more useful subjects already referred to in this book.

(9) Classical Languages

Sanskrit, Persian, Arabic, *Prākṛita*, and *Pāli* are the principal classical languages of India. The Bengali and Hindi dialects are mainly derived from Sanskrit. Urdu is a mixture of Persian and Hindi words. Several years

*In Picture Shows of India I have observed one defect. Names of pictures and painters and often their values are noted,—sometimes short descriptions are given. As the generality of visitors have no aesthetic taste, they are unable to find out special beauties in them. For the purpose of education, such should be written and pointed out by experts in fine arts.

are required to know and master the intricacies of the Sanskrit and Arabic Grammar. But with the aid of some modern simplified grammars some knowledge of easy Sanskrit books can be gained in one year. Those students who are inclined to know the language of simple books in prose or poetry, should be permitted to take up the language as an optional subject in I.A., or B.A. Similar permission should be given in the case of Persian, Arabic, *Prākṛita* and *Pāli* languages. A large number of books in these classical languages have already been translated and published by the Asiatic Society of Bengal, and also private publishers or individual persons of India or England. By reading the translations, the students can gather sufficient knowledge of the contents of the original books. These classical languages have their academical value. But their knowledge has very little practical utility in our daily life. Therefore, it is not fair to compulsorily tax the energy and memory of the young students with the knowledge of these languages.

During the session of 1930-31 of the Calcutta University there were following numbers of students:—

<i>Subjects</i>	5th year		6th year	
	...	<i>Class</i>	...	<i>Class</i>
Sanskrit	...	19	...	20
Arabic	...	4	...	1
Persian	...	8	...	3
Pāli	...	2	...	2

The above facts clearly prove that the University need not engage professors for Arabic to teach 5 students in two classes and for Persian to teach 11 students in two

classes. But one professor for Sanskrit should be engaged to teach 39 students in two classes. It would be a mere waste of money to engage one professor for Páli to teach 4 students only. Unless the lowest number of students be 30 or 40, no class for unimportant subjects should be opened, unless the students agree to pay their fees which would cover at least half the amount of pay to be given to the professor.

(10) Biography *versus* History

"So far as my experience goes, there is no kind of sermon so effective as the example of a great man."

—Blackie's *Self Culture*.

"Some of the best biographies are almost equivalent to gospels—teaching high living, high thinking and energetic action for their own and the world's good."

—Smile's *Self Help*, p. 7.

It is necessary and advisable for the students of the first two classes of a high school to learn the short histories of India and England. The first year arts students should read *short* histories of ancient Greece and Rome,—because they have great influence on the arts, literature and civilization of Europe—and histories of Japan and United States of America. They should also read "Biographies of Famous Men", which should be published by the universities of India in the form of series,—thus, Lives of Philanthropists, Reformers, Authors, Philosophers, Statesmen, Inventors, Scientists, etc. Each biography should contain short narratives of the principal or interesting events and deeds of educative value, which might serve as incentives to the mind of the young readers.

I generally prefer biography to history for the following reasons:—

(a) History presents the pictures of departed kings, their ministers and warriors, and their wars, battles, and administrations, whether good or bad, and deeds of cruelty, and sometimes, benevolent works for their people. The readers of histories have no power or opportunity to imitate the good deeds of the kings. In the course of reading some English books, we come across some references of famous or infamous kings, and warriors, dates of decisive battles, changes of dynasties, memorable events, etc. Therefore, students should commit to memory the above items of history. But it is useless and injudicious to tax the memory of students with unimportant events, dates or names found in histories.

(b) The advantages of studying biographies are far greater than those of the study of histories. We should ever remember the beautiful lines of Longfellow, which enervate even the drooping spirit of the reader.

“Lives of great men all remind us,
We can make our lives sublime;
And departing, leave behind us,
Footprints on the sands of time.”

It is a pity that in our schools and colleges, preference is not given to the study of the biographies of great men to the study of history. Histories seldom generate stimulating and ennobling ideas in the mind of the readers, whereas biographies do produce such ideas. From this, you will easily admit the importance of biographies as against histories. The descriptions of the

thrilling incidents and deeds of bravery and self-sacrifice in the lives of historical persons,—they might be kings, queens, generals, common soldiers, patriots, etc., are rather biographies than histories. Lives of Ráná Pratap, King Alfred, Joan of Arc, Bani of Jhansi, Abraham Lincoln, Nurse Pánná, etc., are very instructive. Let me present some select quotations for the perusal of the readers.

Some Biographical Sketches

1. Carey the missionary, the son of a shoe-maker, was supported in his labours by Ward, the son of a carpenter, and Marshman, the son of a weaver. By their labours, a magnificent college was created at Serampore (near Calcutta) and the Bible was translated into sixteen languages. —*Self Help*, p. 117.

2. Some of God's greatest apostles have come from the ranks. From the barber's shop came Jeremy Taylor, the most poetical of divines; Sir Richard Arkwright, the inventor of the spinning jenny and founder of the cotton manufacture; Lord Tenterden, one of the most distinguished of Lord Chief Justices; and Turner, the greatest among landscape painters. —*Self Help*, p. 8.

3. Shakespeare sprang from a humble rank. **The common class of day labourers has given us Brindley the engineer, Cook the navigator and Burns the poet. Andrew Johnson, President of the United States America, was a tailor. Cardinal Wolsey, De Foe, Aken-side, and Kirke White were the sons of butchers; Bunyan was a tinker. ** Among the great names identified with

the invention of the steam-engine are those of Newcomon, Watt and Stephenson, the first a blacksmith, the second a maker of mathematical instruments and the third an engine-fireman.** Herschael played the oboe in a military band, Michael Faraday, the son of a blacksmith, was in early life apprenticed to a bookbinder, and worked at that trade until he reached his 22nd year.** Among those who have given the greatest impulse to the sublime science of Astronomy, we find Copernicus, the son of a Polish baker, and Kepler, the son of a German public-house keeper. Newton was the son of a small freeholder and Laplace, the son of a poor peasant.** Drake and Nelson were sons of clergymen, similarly Addison, Thomson, Goldsmith, Coleridge and Tennyson were sons of ministers of religion.** Clive, Warren Hastings and their successors were for the most part bred in factories and trained to habits of business.** Milton was the son of a London scrivener, and Pope and Southey were the sons of linen-drappers.** Lord Macaulay was the son of an African merchant and Sir Humphry Davy a country apothecary's apprentice. Speaking of himself, Davy once said, "What I am I have made myself." —*"Self Help."*

4. Walter Scott was all but a dunce when a boy; Burns was a dull boy, good only at athletic exercises. Goldsmith spoke of himself as a plant that flowered late. Napoleon and Wellington were both dull boys, not distinguishing themselves in any way at school. ** Ulysses Grant, the Commander-in-Chief of the United States, was dull and unhandy when a boy. —*Ibid*, p. 419.

5. Newton said to Dr. Bentley, "If I have done the

public any service, it is due to nothing but industry and patient thought." —*Self Help*, p. 112.

6. Giordini said to a youth, who asked him how long it would take to learn playing upon a violin, "Twelve hours a day for twenty years together." —*Self Help*, p. 115.

(11) Moral Education

If the people of India have a desire to aspire to a high status as a nation, they should cultivate the moral nature of the young. The root of the tree of moral nature lies in the sacrificing spirit of fellow-feeling amongst all persons without distinction of creed and colour. Moral faculties of the younger generation must be cultivated at home and school. Bookish education on morality without practice cannot produce the desired effect. The great moral principle, "Do you to others as you would be done by," should guide our actions, and subsequently students will imitate us. It is a mere dream to advance in the path of religion without moral culture. Students should also study the principles of morality and internal joy and elevation of mind experienced in doing humanitarian works. Here is no space to lay down any elaborate code of moral rules. Let me only mention that sympathy and fellow-feeling for men in general, and co-operation amongst persons of different religious persuasions, should be our guiding principles. The head and heart of the young students should be simultaneously educated. The culture of moral faculties is more important than the acquirement of academic knowledge. It is impossible for any people to rise high, until a large band of young workers,

being actuated by moral suasion, work continually for the good of themselves and of the public for several years.

Quotations

(a) Knowledge of itself, unless wisely directed, might merely make bad man more dangerous, and the society in which it was regarded as the highest good, little better than a pandemonium. —*Self Help*, p 384.

(b) Education seems to many to be a thing of syllabusses, examinations and games, but to neglect the moral side of the child, which should be its prime care.

(c) The conscience must be educated as well as the mind informed and the intellect developed. Only then will a man not merely *know* the distinction between right and wrong, but also refuse the evil and choose the good.

(d) That character is power, is true in a much higher sense than that knowledge is power. Mind without heart, intelligence without conduct, cleverness without goodness, are powers in their ways, but they may be powers only for mischief. We may be instructed or amused by them, but it is sometimes as difficult to admire them as it would be to admire the dexterity of a pickpocket or the horsemanship of a highwayman. —*Self Help*, p 452.

(e) Knowledge is not a shop for profit or sale, but a rich store-house for the glory of the Creator, and the relief of man's estate. —*Lord Bacon*.

(f) "The greatest blessing that can happen to you is to come directly into contact with some truly great man, and the closer the better, for it is only the morally noble, and not the intellectually clever, in whom great intimacy always reveals greater excellencies."—*Blackie's Self-Culture*.

(12) Religious Education

Let the different sectarian schools teach the students the tenets of the sect and its religious books. But in cosmopolitan schools, only moral teaching is advisable. In such schools, fear and love of God should be implanted in the mind of young men. The students at the hostels or in their homes should pray in their own way before God with supplicating attitude after rising from the bed and before retiring to sleep. They can sing religious or devotional songs individually or in chorus. In sectarian schools and colleges, the students can recite sectarian prayers, and can keep religious observances of the sect.

The fundamental teachings of true religion are really elevating and inspiring. The Founders of the great religions of the world were men of spiritual culture and their teachings are highly spiritual. But their lives are enshrouded in mystery, their deeds are intermingled with miracles, their ideas of deity are mystified, their teachings are generally misinterpreted by both the writers and readers of them, and their love for mankind has been replaced by ill-feeling and hatred amongst the followers of different religions, and even amongst the different sects and sub-sects of the same religion. Now, if it is thought advisable to educate young men in some broad principles of true religion, the representatives of one dozen principal religions of India should hold conferences and jointly select some universally accepted precepts of the Founders and publish them in graded books for the use of the young men and the general public. It would be out of place, if I try to prove here by arguments that

the essentials of the methods of spiritual culture cannot but be one and the same. Internal devotional practice for the purification of individual spirit from the influence of mind and matter, and elevating it to the consciousness of the Divine Spirit with the guidance and help of a living *Satguru* (Guide); Who has liberated His spirit from mind and matter, is the same. Men have created so many religious sects, simply by sticking to outward rituals and observances, without inquiring into the methods of spiritual culture from a living *Satguru*. I am tempted to quote here a few passages from the book "Philosophy of the Upanishads" by S. Radhakrishnan, Vice-Chancellor of the Andhra University, for the edification of the readers, because they contain the lofty ideals of the sages of the ancient India on religion :

"We have different kinds of pleasures answering to the different levels of our existence, the sensuous, the mental and the intellectual, but the highest is *ánanda* (bliss)".—p. 84.

"Man is not in the least elevated above mere animalism by the possession of reason, if his reason is only employed in the same fashion as that in which animals use their instincts." —p. 87, *Katha Upanishad*.

"Moral life is a God-centred life, a life of passionate love and enthusiasm for humanity, of seeking the infinite through the finite, and not a mere selfish adventure for small ends." —p. 33, *Iśa*

"To love God is bliss, not to love Him is misery. To love God is to possess knowledge and immortality; not to love Him is to be lost in doubt and delusion, sorrow and death." —p. 90, *Brihadárányaka*

"May my body become fit, may my tongue become extremely sweet, may I hear much in my ears."

—p. 94, *Taitariya*.

"The *sannyāsi* (ascetic wanderer), whose life is love and conduct righteousness, turns his eyes towards heaven and keeps himself free from the temptations of the world. The simple but devout minds of India were haunted by dreams of imperishable beauty and echoes of unceasing music."

—p. 97.

"Religion is the inspiration of morality. Without religion morality becomes an eternal striving, a perpetual progress, an endless aspiration towards something we do not have. In religion all this is turned into realisation, enjoyment and fruition. Man is consumed with the fire of the love of God and the service of humanity. He does not care whether the path he has to traverse is smooth or rough. When a man realizes the truth, evil turns away from him and is itself destroyed. —p 102, *Chhândogya*.

"Morality implies a wrestling with the lower tendency, the pursuit of which appears pleasant. When man struggles to free himself from his natural entanglements, life becomes intense with strife. Suffering is the condition of progress. Struggle is the law of existence and sacrifice, the principle of evolution. The more the struggle and sacrifice, the greater are the joy and the freedom. All progress has this destructive side. Every gain in spirit involves a loss in nature. But the loss is not a real loss"

—p 120.

"Until the whole being is made an offering to God, the process of gradual rise through suffering cannot cease.

'Man verily is the sacrifice,' says the *Upanishad* (*Chhândogya*). Life is a perpetual dying till we are face to face with God. Life is a place of torment, where the human spirit writhes to possess the eternal. Veil after veil is to be withdrawn. The illusions of life are to be torn away and our cherished dreams dispersed before the life divine can be reached. —p. 120.

"A man becomes good by good deeds and bad by bad deeds." —p. 121, *Brihadâranyaka*.

"As a matter of fact, the *Upanishads* hold that we can be free from *Karma* only by social service. So long as we perform selfish work we are subject to the law of bondage. When we perform disinterested work we reach freedom. —p. 122.

"Man is not a mere product of Nature. He is mightier than his *karma*. If the law is all, then there is no real freedom possible. : Man's life is not the working of merely mechanical relations. There are different levels—the mechanical, the vital, the sentiment, the intellectual and the spiritual—these currents cross and recross and interpenetrate each other. The law of *karma*, which rules the lower nature of man, has nothing to do with the spiritual in him. The infinite in man helps him to transcend the limitations of the finite. The essence of spirit is freedom. By its exercise man can check and control his natural impulses." —p. 122.

CHAPTER II

WESTERN EDUCATION IN INDIA

Educational systems of foreign countries might not suit India *in toto*.

1. During the Mahomedan rule in India there were elementary schools throughout the country for teaching children vernacular languages by the aid of manuscript books. There were some high schools for the study of oriental languages, such as, Sanskrit, Persian and Arabic. After the battle of Plassey in 1757, Englishmen got a firm footing in Bengal. The Court of Directors of the East India Company established the Calcutta Madrassah in 1781 and Hindu Sanskrit College at Benares in 1791. "In 1813 an Act of Parliament empowered the Governor General in Council to apply not less than one lac of rupees in each year to the revival and improvement of literature and the encouragement of the learned natives of India, and for the introduction and promotion of a knowledge of science among the inhabitants of the English territories in India." (Calcutta University Commission Report, 1917-19, Vol. I, p. 81.) "The Government spent £3,63,000 for the period from 1813 to 1830. The grants were for the chief part devoted to the encouragement of oriental learning." (*Ibid*, p. 82). In 1816 a number of wealthy and public spirited Indian gentlemen, warmly supported by the Chief Justice Sir Edward Hyde East, by David Hare, and other Europeans, subscribed a capital sum of more than a lac of rupees for the foundation of a college in Calcutta for

the instruction of sons of Hindus in the European and Indian languages and sciences. The work of this institution, the Hindu College, had a wide-spread influence." (*Ibid*, p. 83). The Sanskrit College of Calcutta was opened in 1824. William Bentinck inaugurated Education in India in 1835. Calcutta Medical College was founded in 1835. In 1827 medical classes on Ayurveda system were opened at the Sanskrit College and classes on the Unani system were opened at the Calcutta Madrassah about the same date. A medical school was founded at Bombay in 1826. Ram Mohan Roy in his famous memorial to Lord Amherst in 1823 strongly advocated Western education in preference to oriental education. In 1854 Bethune College for girls was opened at Calcutta. In 1854 there were 288 schools in Bengal with 6,869 pupils. In 1917 there were 9,520 schools with 2,86,000 pupils.

2. In 1854 there were only 129 students in all the Government colleges of Bengal, Bihar and Orissa; the numbers in the Mission colleges are not known. Presidency College of Calcutta was opened by Government in 1855. Calcutta University was opened in 1857, other provincial universities of India were opened afterwards gradually. Engineering College was established in Bengal in 1857.

3. The majority of the educated persons of the present generation might entertain a wrong notion that Government, of its own accord and at its own expense, took initiative measures for the spread of high education in India. This is far from actual facts. The rich people

of Bengal and some Christian societies established high schools and colleges at Calcutta and gradually in the different districts of Bengal, whence the tide of English education spread to other provinces of India. In the "Calcutta University Commission Report", Vol. 1, p. 79, I find, "A characteristic feature of Bengal is the exceptionally large proportion of high schools which are under private management. There is nothing like it elsewhere in India. In the United Provinces nearly half the high schools are managed either by Government or by a public local authority. In the Punjab, one out of every three; in Bombay, one out of every four; in Madras, only one out of every fourteen." Please compare with the similar state of affairs which existed in England and Wales. "From the mediaeval times to the early years of the 19th century elementary education was supplied mainly by religious organizations. Schools met their expenses from endowments, private beneficence and fees. In 1833, Parliament voted £20,000 for public education; this was the first annual grant.**At that time there was no State department for education.**During the 19th century the State began to aid higher education."

4. Compulsory Education in Great Britain and Ireland, United States of America, Italy and Japan.— Since 1874 there is compulsory instruction in England and Wales, that is, elementary instruction must be given to children from 5 to 14 years of age. Statutes require parents to cause their children to receive efficient elementary instruction or to attend school. Similar rules hold in Scotland and Ireland. "In the United States,

every State in the union has a compulsory school attendance law. In general, children are obliged to attend school from 7 to 14 years of age, and those from 14 to 16 must attend school or secure employment certificates " "In Italy, Primary Education is free and compulsory." In Japan, Education in the lower grades is free and compulsory. High schools are State-aided, and prepare for a 3 years' course at the universities.* There are high schools for girls, and technical and special schools are well attended. There are 6 state universities."

5. "In 1917-18 the population of Bengal and United Kingdom is about 45,000,000; the number of students preparing for university examination is about 23,000. In Bengal there is one university, in the United Kingdom 18 universities. The number of students in the Calcutta University is the largest in the world."—Calcutta University Commission Report, Vol. I, p. 21.

On page 64 of volume 1 of the above Report it is mentioned that Indian universities were formed on the model of the University of London.†

6. On page 66 of the same volume I read that, "The Indian Education Commission of 1882 recommended that,

*Please mark the words "3 years' course at the universities," in comparison with 4 to 7 years' course in Indian universities. We should study and compare the practical results of the university education of the two countries.

†An Indian University has not enough fund to engage professors to teach so many subjects, or even half of the subjects, as are taught in the London University. Such being the circumstances, an Indian University should teach only such useful subjects in arts course as would be beneficial to the students in after life and as can be mastered by the students by private study.

'in the Upper classes of high schools there be two divisions, one leading to the entrance examination of the university, the other of a more practical character intended to fit youths for commercial or non-literary pursuits.'*

7. "Of 1589 students who obtained arts degrees in the University of Calcutta between 1857 & 1882, 526 had in 1882, entered the public service, 581 the legal profession, 12 had become doctors; the 470 who remained were, no doubt, largely employed as teachers in the colleges and the high schools."—Calcutta University Commission Report, Vol. I, p. 49. "The two universities of Calcutta and Madras have become two huge factories for mass-production of graduates."†

8. "The Universities are over-crowded with men who are not profiting either intellectually or materially by their university training. To many hundreds, the years of training mean a waste of money and of precious years

*It was a great misfortune for the students of India, that this recommendation was not acted upon in course of 52 years which followed. Even now this sound advice deserves to be followed. We should take a lesson from the curricula of studies of the 9,00,000 students of London. The aim of the London County Council is to make the students fit for the battle of life. It is to be regretted that the principal aim of the universities and education departments of India is to produce graduates and undergraduates.

†Please compare the present number of graduates and undergraduates who come out from the Calcutta University alone every year,—it is more than 16 times greater than the number of degree-holders in course of first twenty five years. If the numbers of other universities are taken into account, the total number will be appalling if we at the same time take into account about 10 per cent. vacant posts for the passed students. It is heart-rending to think of the disastrous prospects before them.

of youth; nor is it only private money which is wasted. Each student in a university or a college costs in every country far more than his fees, sometimes 5 or 6 times as much, and this money in India comes in part from endowments, but very largely from the public purse. If those students who now go to a university or a college without being really fitted for higher work, were diverted in large numbers at an early stage to careers better suited to their capacity, money would be set free for more profitable educational uses, and the training of the best men could be appreciably improved. The over-crowding of universities and colleges by men of whom a large number fail and for whom there is no economic demand has vitally affected the quality of university education."—
 "Extract from the Indian Statutory (Hartog) Commission" (Interim Report—Review of the growth of Education in British India), September, 1929, p. 265. Compare the above with an extract from "The Report on Public Instruction in Bengal during the year 1927-28." "The average annual cost of educating a student, during the year, worked out at Rs. 755 in the Presidency College, of which Rs. 301/5/0 was borne by provincial revenues; at Rs. 431/9/- in the Dacca Intermediate College, of which Rs. 343/4/- was borne by provincial revenues; at Rs. 535/3/- in the Krishnagar College, of which Rs. 435/6 was borne by provincial revenues; and at Rs. 285/3/- in the Rajshahi College, of which Rs. 192/6 was borne by provincial revenues."

In 1822 Raja Ram Mohan Roy addressed a letter to Lord Amherst, in which he entered a vigorous protest

against the establishment of Sanskrit College, which can only be expected to load the minds of youth with grammatical niceties and metaphysical distinctions of little or no practical use to the possessor or to the society." Such remarks are equally applicable with regard to the difficult grammatical subtleties of the Arabic language. It is difficult to master them in a year or two.

"The University College of Science" at Calcutta owes its existence to the donation of Rs. 15,00,000 of Sir T.N. Palit, a lawyer who practically gave away everything he owned and a donation of Rs. 10,00,000 of Sir Rash Bihari Ghosh, who also gave away everything he owned. Sir P. C. Roy spoke at the Congress of the Universities of the Empire held at Cambridge in 1926, "We have had every help from the Indian quarter, and the College of Science represents altogether rupees sixty lakhs. *I have calculated that we have only received 2 p.c. help from the Government, whereas 98 p. c. has been contributed by our own people."—*Life of Sir P.C. Roy, p. 206.*

Sir P. C. Roy has noted the failures of two big educational institutes of India under the charge of Government. A brief account of them is given below :—

(1) The Institute of Science at Bangalore which owes its origin to the munificent benefaction of the late J.N. Tata, has a yearly grant of Rs. 1,50,000 from the Government of India. The Director gets a salary of Rs. 3,500 per month, whilst his assistants or the research workers get about Rs. 150 p.m. A considerable sum is spent away on its Directors and the professors, and there is no money left for the

younger and really promising workers. According to Sir C. V. Raman, this Institute is a failure.

(2) The Royal Institute of Science at Bombay, which also owes its existence to the munificent benefaction of the citizens of that city, is like a second-grade college. The total contribution from the public benefactions amounts to Rs. 24,75,000 and that by Government to Rs. 5 lakhs. Both these Institutes were staffed, managed and controlled entirely by British element.

The Calcutta University Commission of 1917-19 in Vol. IV, page 8, has presented a noble example exemplifying an educational policy, which should be calmly read, digested and followed by the persons in charge of the education policy of India. "By waging war against ignorance, the Swiss have alleviated poverty as well. But they have succeeded in doing so only by thinking at every stage what education should aim at, what kind of teaching it should provide and how it may combine training for livelihood with the training for life." I have underlined the words 'at every stage' to show its importance.

The Commission has made five more important statements with regard to the Indian education system :

(1) The health of the students is unduly neglected. Facilities for games and physical training are inadequate.

— Vol. IV, p. 12

(2) Obsession by the idea of passing examination is another glaring defect in the existing system of university education

—p 13.

(3) University education (in Bengal) (and similar complaints come from other parts of India) is largely

vitiated by this narrowness of aim. —p. 13.

(4) A large number of our witnesses urge that the University should provide an increased number of courses of training in technology. —p. 16.

(5) High School education in Bengal is too bookish and literary ; and science, taught in an intelligent way, is necessary to counteract this tendency. —p. 68.

The scope of the Indian universities is extremely narrow, and it can hardly even be said that they pursue any conscious definite aim. —*Mr. Justice Abdur Rahim*, — p. 15.

"The education imparted does not go deep enough for shaping mind and character. The student comes out from the school with a vicious habit ingrained in him—that of depending chiefly on his memory. He depends even more largely on bazar notes and keys, because he has never acquired the power of accurate expression or of thinking for himself." —*Rai Lalit Mo'ian Chatterjee, Bahadur, Principal of Jagannath College, Dacca* —p. 14.

"The work of a college in Bengal", says *Mr. J. R. Barrow*, officiating Principal of the Presidency College, "is almost entirely conditioned by the examinations which have to be passed." — p. 143.

The professors of chemistry of the same college complain that teachers have little or no freedom of teaching owing to the rigid examination system. —p. 143.

Professor at Rajshahi says, "To my mind it is the examination system of the university that is mainly responsible

for the defective and abortive education imparted under its auspices." —*p. 144.*

The staff of the Serampore College tell us, "the examination at the end of the course is the only thing that counts. Training is at a discount, and success in the examination is the be-all and end-all of the system."

—*p. 144.*

Dr. Tej Bahadur Sapru (now Sir) of Allahabad writes, "the bane of the university examination in India is, and has been, that both the professors and the students have made a fetish of examinations." —*p. 144.*

Some 50 years ago there was a complaint about the disposal of undergraduates and graduates, although their number at that time was small. But now their number has been multiplied upto thousands; and the bread problem is becoming more and more acute. Therefore, our education system should be radically changed and remodelled, so that the passed students might be so engaged or employed that they can earn their livelihood by honest labour.

Some Facts regarding Higher Education

"The total amount spent from public funds in the whole of British India for education of all kinds and grades is comparatively insignificant,—is in fact smaller than the educational expenditure of the London County Council." —*Modern Review, Oct. 1934, p. 429.*

"The whole amount spent from public funds on education of all kinds and grades in 1931-32 for a population of 27,17,80,151, inhabiting British India,

was Rs. 16,84,25,628. To this amount Government funds contributed Rs. 2,80,01,313 and Municipal Funds Rs. 1,58,17,222. So for the education of 27 crores of people Government spent in 1931-32 about 13 crores of rupees, or less than eight annas per head per annum. For the education of 44 lakhs of people, the London County Council spends about 17 crores of rupees,—it comes to more than Rs. 38 per head per annum.”

—*Ibid.*, p. 440.

There were 16 universities in 1931 in England, Scotland and Wales with 5,519 professors (out of which Oxford had 450, Cambridge had 388, and London had 1,243 professors). The figures do not include the staffs of colleges, halls, “schools” (of London University), etc.

The population of England, Scotland and Wales in 1931 was 4,49,37,444. Each of the Provinces of Bengal, United Provinces, and Madras had a larger population that year.

In Bengal there are two universities, *viz.* Calcutta and Dacca. In the Calcutta University there are 239 professors and other teachers; and in the Dacca University, 107 professors and other teachers. In the United Provinces there are five universities, *viz.* Allahabad, Benares Hindu, Aligarh Muslim, Lucknow and Agra,—the total professors and other teachers are 330. In Madras there are three universities, *viz.*, Madras, Andhra and Annamalai, with 285 and 68 university professors and other teachers respectively; total 1012. —*Ibid.*, p. 443.

The whole of the Indian Empire, including Burma and the Indian States, of which the population is 35,28,37,778,

as against Great Britain's 4,49,37,444, contains 18 universities, as against Great Britain's 16. The total of the university teaching staff of these 18 universities is 1012. This is less than one-fifth of that of Great Britain. Even if we added the number of the professors and other teachers in the constituent colleges of Indian universities to the number of university teachers proper, the total would come to only 2,299,—less than one half of Great Britain's 5,519. —*Ibid*, p.442.

The total number of university and college students in Great Britain is 78,979. This is, of course, exclusive of the numbers of students in the many Agricultural Colleges, Technical Institutes and other institutions for higher professional or vocational training in Great Britain of which we have very few in India. In the 18 universities of the Indian Empire there are 10,458 students in university departments or classes, 15,470 students in constituent colleges, and 79,310 students in affiliated colleges: total 1,05,238. —*Ibid*, p. 443.

Great Britain with a population of over 44 millions has 53,386 university students, the Indian Empire with a population of 352 millions has 10,458 university students. The Indian figure is very small. Great Britain has 78, 979 university and college students; India has 1,05,238. As India's population is eight times that of Great Britain, India ought to have 6,31,832 university and college students (instead of 1,05,238, which she has), in order to be equal to Great Britain in higher academic education. —*Ibid*, p. 443.

The total educational expenditure of the Central and Provincial Governments in British India in 1931-32

was Rs. 12,46,07,093. In that year the total revenue of the Central and Provincial Governments was Rs. 2,03,72,52,000, according to the "Statesman's Year-Book for 1933." Therefore in British India in that year Government spent a little more than 6 per cent. of its revenue for the promotion of all kinds (general, professional, vocational, technical, industrial, etc.) and grades (university, collegiate, secondary and primary) education.

—*Ibid.*

Deductions from the above data—

In 1931-32 the population of the Indian Empire including Burma and the Indian States is about 352 millions; there are 1,05,238 college and university students; and about 17 crores of Rupees are spent on all kinds of education. The London County Council spends about 17 crores of rupees for 4½ lakhs inhabitants of London. By calculation we see that Government spends -/8/- per head per annum, whereas London County Council spends Rs. 38/- per head per annum. Great Britain has a population of 4½ millions, and has about 79,000 university and college students. As Indian population is 8 times that of Great Britain, India, to be equal, ought to get 6,32,000 university and college students instead of 1,05,238 students. Therefore, in order to keep six times the present number of Indian students, $17 \times 6 = 102$ crores of Rupees should be spent every year when this number (6,32,000) is secured. All of us know that there are four principal stages of education, *vis.*, primary, secondary, high school, college or university education. It might have taken a century or two for

Great Britain to pass through these 4 stages and then secure 79,000 college and university students.

The present percentage of literates of Great Britain is about 90 and that of India is 6 only.* At the present rate of increase of literacy of India, it might take 100 years or more to be equal to the literacy of Great Britain. If every year extra 5 crores of Rupees are spent for making 35 crores of people literate like the people of Great Britain, some 75 crores of Rupees spent in course of 15 years might transform the literacy of 6 per cent. to the literacy of 90 per cent. Even then three other stages are to be crossed. It would be an Alnasker's dream to think for a moment that so much money will be spent by Government before the 2000 A. D. Roughly speaking, India can be equal to England in university education at the present rate of progress in the end of 21st century.

When such is the state of affairs, our duty should be to try to get more education grants from Government,

*NOTE.—Percentage of literacy.

			Males	Females	
England	...	...	93	91
U. S. A.	...	...	95	93
Germany	...	...	100	100
Japan	...	...	98	96
India	...	...	5½	1½
Percentage in India according to religion.					
Hindu	...	6·6	Christian	...	24
Mahomedan	...	4·5	Jain	...	3
Sikh	...	6	Parsees	...	73
Buddhist	...	29			

say 20 or 25 crores of Rupees; and spend a sufficient percentage of the present grant on primary education and on technical and industrial education, by reducing the cost of higher education in the universities.

Let me present before the readers a rough outline sketch of the memorable deeds of private individuals in the direction of spreading Western education amongst citizens of Calcutta; and the obstacles offered by the education authorities in the way of some of the laudable attempts of the individuals and the indifference shown by them. David Hare opened Hindu College, Carey and Marshman, Serampore College; Alexandar Duff, Duff College; Gour Mohan Addy, Oriental Seminary; Keshab Chandra Sen, Albert College; Vidyáságar, Metropolitan Institution; A.M. Bose and other Bráhmas, City College; Girish Chandra Bose, Bangabasi College; Khudiran Bose, Central College; Surendra Nath Banerjee, Ripon College; Lal Bihari Shah, Blind School; Umesh Chandra Dutta, Deaf and Dumb School; Bráhma Samaj, Bráhma Girls School; Gauri Mátáji, *Sáradeswari Asram*; Mátáji Tapaswini, *Mahákáli Páthshálá*, and so on. When benevolent Vidyáságar fixed reduced fee of Rs. 3 (instead of Rs. 5) in his College, and the Maharaja of Burdwan opened a free College at Burdwan, the education authorities raised objections. I write these things out of my memory. Many other similar facts can be cited from publications. My object in writing this paragraph is to show that the universities from their former actions are not expected to sympathise with me and change the present rules. But still I am suggesting

these reforms with the hope that these suggestions might appeal to the mind of some leaders of education and they might take active steps in the direction. The Calcutta University can save a good deal of money annually by transferring the M. A. classes to different colleges of Calcutta and outside Calcutta, and utilising the money in opening technical colleges, which are in greater demand than the existing M. A. classes.

The would-be research scholars can gather further knowledge by their own efforts after being graduated. But as most of the M. A. students take up their course with the mere object of getting degrees, and not with the object of acquiring knowledge for research work or for special proficiency, it is not judicious for a university to incur double or treble expenses on their teaching.

CHAPTER III

EDUCATION BY MUSEUM

Educational Museum is a necessary adjunct of education

In this age of enlightenment and progress, the necessity and utility of Educational Museums at the educational centres of India can hardly be over-emphasized. Students require definite information on hundreds of subjects of which they read in their textbooks and newspapers and hear in public lectures. A visit to a first class educational museum, when undertaken under the guidance of a teacher, does not only provide palatable food for their curiosity-loving imagination, but also considerably enlarges their mental horizon. The necessity of such museums is proved by the existence of not less than 2000 Scientific Museums in the world, exclusive of the Museums of Art (This number is mentioned in the *Encyclopaedia Britannica* published 30 years ago). "There are in England and Wales, more than 400 museums accessible to the public". ("Museums and the Schools," published in 1931.) If any reader of this book wants to know the nature and particulars of an educational museum and its classification of objects, basis or principle of collection, scope of the museum, a rough list of articles and their cost, how to conduct it and educate the public, etc., he is asked to read my book "*Educational Museums at the Educational Centres of India.*" I have no space here to dilate on the subject. Suffice it to state that in India there is not a single museum of this nature.

In the 18th century and before, there was no educational purpose in view when the first museum collections were made. The aim of such collections was to entertain or to astonish visitors. Still the popular idea is prevalent that a museum is nothing but a collection of curious things. From the 19th century and onward the old idea has given place to the new idea that museum should be formed for the study of various arts, sciences and inventions.

Government is spending thousands of rupees every year on the collection and preservation of articles of archaeology, anthropology and fine arts. They have very little value compared with the number of articles of scientific nature, health and hygiene, childwelfare, physical culture, etc. The existing Museums of India excite the wonder of curiosity-mongers who visit the museum, only one in a thousand or ten thousand visits such Museums to study the exhibits. The Museum authorities often display the number of people who visit their Museums and thereby try to prove the utility of the Museums. Not to speak of the illiterate visitors, even few of the educated persons know the importance of education by means of Museums. Mere dumb-shows of the exhibits cannot educate the visitors. The advanced technical books on Zoology, and Archaeology published by the Indian Museums can never be appreciated by the general students of schools, colleges or universities, — only one in a thousand might take interest in them. For the last 25 years I have made several representations, to the Trustees of the "Indian Museum" (the

oldest and biggest Museum in India) to attach the names of the exhibits in Bengali and Hindi with short descriptions from Dictionaries or with cuttings from Dictionaries, but they disregarded this simple and several others of my useful suggestions. The educated public do not take interest in these matters, and the Museum authorities do not seem to appreciate criticism and advice from outsiders.

I feel that until the heads of the Education Departments and the educated public move the Governments of the Provinces to effect necessary reforms in the existing Museums, which are under the sole management of Government, it would not move an inch from its old groove. The Heads of the Education Department apparently have no time to spare to think about the importance or improvement of the Museums. The Government should appoint an independent "Museum Committee" of Government officials and selected educated persons to advise how the present Museums can be improved by making radical changes and how Educational Museums can be established at the Educational Centres of India. The Committee should study how millions of students are being educated in the Museums of England, United States, America and other countries. Only one Museum of the city of New York in 1929 possessed 70,000 Lantern slides, 2,26,608 pupils attended lectures, 17,25,865 persons viewed motion pictures on educational subjects, 18,66,399 pupils used nature study collections, 85,50,131 pupils viewed lantern slides. In the last 5 years the total number of the above classes of students increased 3 times.

I am sure that most of the colleges and a number of schools can start their own Museums, if they are convinced of the importance of visual education. A century has passed since photography was invented; and in the course of 100 years it has become so perfected that the small negative 1 in. square is capable of being enlarged to display the finest details of an animal in full motion at a speed of 40 miles an hour. Colour photography is gradually being developed in America. In the present century Cinemas and Talkies can be easily utilised in educating the pupils and the public on various useful subjects, —there being about 62,000 public halls in the world for cinemas in 1932, of which some 37,000 are wired for sound. Several colleges and schools can jointly open cinemas with talkies in big cities of India and teach millions of students and the public, if possible. But an individual college or school can easily collect thousands of useful photographic pictures and classify them under different headings and paste them on Collection Books, as directed in pages 52 to 55 of my book '*Educational Museums.*' It should be thoroughly studied. One might under-value the importance of these photographic collections. But this would be a mistake. Not even one in a million can get actual visions of hundreds of natural phenomena, famous buildings and bridges, renowned persons, ethnological, anthropological, and archaeological things, animals and plants of different countries, —specially extinct animals and wonderful creatures of the deep sea, scenes of sports; battles, adventures, etc.; vehicles of land, water and air; domestic, congregational, or theatrical scenes; old paint-

ings and fine arts scattered all over the world; scientific appliances, realistic pictures of physiology, anatomy and pathology; wonders of astronomy; microscopic wonders, etc., etc. The students and teachers of such schools and colleges of India, as do not possess such collections are unfortunate and pitiable.

Before the discovery of cinemas, lessons in geography, natural phenomena, zoology, botany, etc. were imparted by means of motionless pictures, diagrams, models, maps, etc. But now schools and colleges should take advantage of cinemas and talkies in teaching the students. If we neglect to do so, we should be considered backward people in the matter of education. Therefore, this present improved system of teaching must be adopted in Indian schools and colleges. Wonders of nature that is, natural phenomena of lands which are situated thousands of miles off can be vividly exhibited by motion pictures accompanied with sounds. Most obstruse facts of astronomy, biology, chemistry, physics, health and hygiene can be illustrated in such a realistic manner by the cinemas and talkies, as can never be satisfactorily done by mere lectures.

I earnestly appeal to one and all who are in charge of education to study the modern improved methods of teaching the pupils and the masses by means of pictures, slides, cinemas and talkies.

Let me make an extract here from a small book "Motion Pictures in Visual Education" published by the "Educational Films Corporation, 140, Missirpokhra Road, Benares City".

"Our text books in Literature, History, Geography, Science all seem incomplete without pictures and diagrams ; motionless pictures have, therefore, been supplementing the descriptions in books so long. But moving pictures have now brought about a change which is literally beyond measure. Instead of straining our nerves to imagine the incidents of history we have now the story read before us ; we see events pass before our very eyes in the same way they did thousands of years ago. We have heard descriptions and seen a few pictures of Africa in the class room, but has that been able to give us the least idea of the country as it really is? But here is a film which brings before your eyes in your room the sights (and sounds too) of the country lying thousands of miles away, all vivid and real. Most obstruse facts of astronomy, biology, botany, chemistry and physics become as clear as daylight through these moving pictures. Perhaps you have been trying to teach personal and social hygiene to the future citizens of your country and you find the boys and girls still unimpressed by the teaching. But we have here films of every variety which will visualise every aspect of hygiene."

Let me give below a list of certain Films (with or without talkies) so that you can form an idea of importance and varieties of the subjects.

Dairy Farming	Birth of Earth
Atoms and Electrons	Construction of Elements
Oxygen the Wonder-worker	Works by Electricity
Experiments in Physics	Ocean Depths.
Spectral Analysis	Hydraulic Plant

Purifying Water	River Amazon
Arctic Region	Aurora Borealis
Everest Expedition	Coal Mines and Mining
Oil Mines with working	Biggest Cities
Celestial Wonders	Microscopic Wonders
Parliaments	Artificial Respiration
Body Building	Care of Teeth
Making Milk safe	How to preserve Eyesight
Home Nursing	Prevention of Malaria
Prevention of Cholera	Prevention of Smallpox
X-Ray Revelations	Care of Skin, Ear and Nose
World War	Making big Newspapers
Pig Iron to Steel	Birds, Insects and Animals
Glaciers and Cataracts	Volcanoes and Seas
Circulation of Blood	Digestive System
Biographies of Great Men	Famous Bridges

By means of Photos

Works of Art	Reproductions of Famous
Beauties of Architecture	Paintings
Discoveries of Antiquity	Minerals
Famous Buildings	Meteorites
Precious Stones	Famous Men

and many such things.

Millions of people are spending millions of rupees on love scenes. It is the duty of the leaders of education to change the vitiated taste by opening Cinemas and Talkies for imparting useful and valuable instruction.

Here I give a short sketch of *Children's Museum* at Brooklyn, a part of New York City, United States America. "It was the first children's museum in the

world. It is today the largest institution of its kind and has been taken as a model for children's museums in various cities of the United States and other countries. Educators from the four corners of the earth come here to study this educational experiment and to evaluate its significance, and the story of its accomplishments has been published in many different languages". It was opened in 1899 with 300 books as a nucleus. It now offers its service through 6 divisions:—

Lectures	Library	Docentry
Mineralogy	Scouts	Loans.

In 1928 the City of New York has spent nearly \$500,000 (about 15 lacs of rupees), and added \$11,486 (about Rs 34,000) to the annual budget. Exhibition rooms contain:

Birds	Insects	Volcano
Evolution	Busy Bee	World History
Geography	Minerals	American History.

About 2 lakhs pupils are educated here every year. On week days it is open from 10 to 5, and Sundays 2 to 5 P.M. Admission free. Daily lectures are delivered at 4 P.M. on different subjects, illustrated by motion pictures, lantern slides and objective materials. Loans of animals, birds, charts, dolls, insects and minerals are given to schools. Games are played daily in the exhibition rooms. Library contains 10,000 carefully selected and graded books. Monthly "News" are issued. Biographies of great men are shown. Stamps are collected.

"Many children who have accepted the Museum as a second home, have found it a help to unfolding life-interests and professions. Botanists, Zoologists, Entomolo-

gists, research men in advanced sciences, and inventors of international reputation, once played in this pioneer museum—but they played with real things and were guided to their choice of vocations as a direct result of this play.”

In “New York Times Magazine”, January 7, 1934 the following description is published. “This kind of museum quietly has been duplicated more or less faithfully in the past few years in some 40 cities of the United States, and even in England and Japan.”—“Moreover, in inculcating actual knowledge, the spirit of enquiry and the zest for learning, the children’s museum has been more successful than many a school. It has brought literally millions of children to a more lively understanding of the world about them, and caused hundreds of them eventually to become expert in various scientific and artistic lines—natural history, mineralogy, geography, painting and engineering. The children’s museum reaches a wider public than the much-talked-of progressive school”, which in many respects it resembles. For the museum has not had to meet the resistance attendant on revolutionising an existing institution. To be sure, it has changed the whole connotation of the word *museum*, so to speak, from the dead to the quick, and transformed the museum visitor from spectator to lively participant. Such a lure it has achieved indeed only by reversing the ordinary museum philosophy. Instead of being mainly a repository of rare and costly exhibits from remote parts of the earth, and of the ‘do-not-touch’ and ‘please-do-not-handle’ sort, it shows a great many things from the every day life round about

that can be examined to the youthful heart's desire. Many of the museum heads hold that their best work is done when the child is free after school. Then, in a sympathetic atmosphere, when no one is trying to make him do anything, his latent powers unfold. Turned loose amid stimulating material, the child finds the things that meet his curiosity and ability and works out his own programme. The museum in Brooklyn alone has 5,000 puzzles under constant supervision and repair, with more being added to all the time. Babies have a special room, with pictures cut up into only 3 or 4 pieces, and other puzzles are graduated in difficulty according to the age of the worker. Many of the children win the privilege of taking home a small collection of minerals for special study. Into dozens of remote by-paths such study leads. One boy, with the aid of a washing machine motor, ground and polished some of his finds into beautiful gem stones. A girl in her researches of the country near New York discovered a radio-active mineral. Others study the geological structures of park cliffs. Many a collector and amateur lecturer has begun his career. One boy reported that he had explained a loan collection to 2,500 people, in school and out. Newark, indeed, still cherishes as memorable civic events both a Japanese doll festival and a Chinese wedding procession which were planned and executed a few years ago by the children. During 1932 across its friendly, informal thresholds passed nearly two-thirds of a million visitors. Much of the vision and ingenuity which have contrived the children's museum technique is that of the Brooklyn Curator-in-

chief, Miss Anna Billings Gallop. For a generation she has applied to it the same single-minded determination that caused her long ago, after several years of teaching, to start earning her own way through a biological course at the Massachusetts Institute of Technology. Even the children's Museum of Buddhism in Kyoto, Japan,—started in 1928 mainly to help the public schools, educate the children in religious history, art and literature,—uses the Brooklyn devices and games."

Will the above facts open a little the eyes of the conductors of "dumb" Indian Museums? India is so backward in the race of advanced nations, that it has not so far cared to copy any of the children's Museums in the United States America. Most people have a wrong notion that unless a museum collects articles of curiosity, it should not be termed a museum at all. They think that the museum is a place of amusement only. They cannot be blamed for entertaining such an idea,—the blame lies with conductors of Indian Museums, because they have indirectly generated this idea by their actions. The deep seas and solid earth contain precious stones, but unless they are cut, shaped and polished, people cannot use them. The Indian Museums are store houses of some valuable objects, but unless the people are informed about their properties, their utility cannot be appreciated by the public. The public revenue is spent, but little educative purpose is served. Are the authorities so much antiquated and blind-folded that they are discarding this natural method of education? Is it not our duty to dispel ignorance of the poor Indians?

CHAPTER IV

UNIVERSITY EDUCATION *vs.* HOME EDUCATION

In India students should be allowed to be graduates by college education as well as by home education.

In this chapter, I have collected Evidences of some eminent men against the prevalent university system of education ; and have cited some Instances by which I have attempted to show that a large number of great men of all countries at all times rose from the ranks by self-education, and not by college or university education.

A college student has the advantage of learning a great many things and different phases and explanations of a subject or of a text-book from his professor without making much effort and exertion. A home-student has not this advantage; but if he has a thirst for knowledge, that thirst will develop his mental power in gathering knowledge. This is not a small gain ; its value is superior to undigested knowledge gained by lectures. By the study of printed lectures on different subjects, both kinds of students will have equal facility to understand a subject.

I have no intention to discuss this matter at length, but I can safely say that while there is a possibility of the supporters of university coaching system, of being in the wrong direction, until the university gives an opportunity to the home-students to appear at the examinations and get degrees, nothing can be said against getting degrees by home-education only. Let a trial for at least 6 years be given, and the result be keenly

watched. Most of the persons who are in favour of university education are interested parties, such as, teachers professors, members of senate or syndicate or anyway employed in the universities. Their opinion cannot be counted as wholly unselfish or unprejudiced.

Let me present here the views of some distinguished men of the world on this subject for the calm and deep consideration of the persons who are in charge of education.

As I believe that these views and the encouraging incidents in the lines of self-made men cited here are true, they should appeal to the inner conscience of the education authorities of India in such a manner that they might remodel and reform the colleges, so that both the college and home students may have equal facility to pass the university examinations. Nothing can be fairer and more liberal than the carrying out of this proposition, because in that case both the classes of students can simultaneously make progress in their academical career.

Hundreds of examples of acquisition of knowledge only by home-study can be collected from the lives of famous men of the world in all departments of knowledge. Such great men lived before the existence of any university or they never attended any college. They were educational giants when compared with the ordinary graduates of India. As it is very difficult to get an increased grant from Government for education of the people on more useful subjects than what is taught in the universities, we should spend a good percentage of the present grant for more important educational purposes, instead of employing so many

professors for so few university students. Moreover, educational grants in India should never be spent for teaching ornamental subjects.

EVIDENCES OF EMINENT MEN

1. "I believe University life does more harm than good to the most men."—Ramsay Macdonald, Prime Minister of England.

2. "For myself, I have used only one big book. For myself, I have had only one great teacher. The book is life lived. The teacher is day-by-day experience".—Benito Mussolini, maker of modern Italy.

3. "The market value of an average graduate, taking into consideration the vast number of the unemployed, does not exceed Rs. 25/ per month. Barely one per cent. of them is successful in life in the worldly sense, while thousands rush to their doom thoughtlessly."—Sir P.C. Ray in his "*Life and Experiences*," p. 259.

4. "It is necessary that the attention of the country should be clearly drawn to the colossal waste of energy and national intelligence which we have allowed in the past by our scheme of university education. I shall allude to the most heart-rending analysis of the situation by no less a man than Mr. K. Srinivas Iyenger who in the course of his Vice-Chancellor's speech in 1920 stated:

"Of 18,500 graduates of the University of Madras whose careers have been traced, some 3,700 have spent their lives in Government or administrative service; about an equal number are engaged in the teaching profession, and nearly 6000 have gone into law. Medicine has

had only 765 devotees, Commerce only 100, and Science a tiny fraction of the whole, 56. You will search in vain, for any solid contribution to the sum of human knowledge amongst this magnificent number of 18,500."

5. "The average graduate is found to be a licensed ignoramus. The degree only serves as a cloak to hide the degree-holder's ignorance. Some 25 to 35 thousand students are preparing for degree examinations under Calcutta University and 2,000 more under Dacca University. The naked fact is unhappily lost sight of, that not more than two to three per cent. can ever be absorbed in the "services" and the professions. What of the remaining 97 per cent. or so, who enter the world utterly unfit for battle of life? —*Ibid*, p. 261, 262.

6. At the Alipur (suburb of Calcutta) bar there are nearly 950 lawyers (B.L.'s. and M.A., B.L.'s); I have been assured by some of the successful practitioners there that not more than 10 per cent. of them can earn a decent living. The pitiable condition of the briefless lawyers has become proverbial, e.g., there are more lawyers than clients. —*Ibid*.

7. Mr. Andrew Carnegie, in his "*Empire of Business*" writes:— "The absence of the college graduates in the list (of industrial magnates) should be deeply weighed. I have enquired and searched everywhere in all quarters, but find small trace of him as the leader in affairs, although not seldom occupying positions of trust in financial institutions".

7 (a). Sir Thomas Lipton, business man, millionaire, sportsman, rose from poverty and obscurity. He wrote,

"Over 60 years ago, I worked in a workhouse shop in Glasgow for half-a-crown a week. In those early days when I was toiling 6 days a week for less than 6 *d.* a day, I promised my mother that she should have a carriage-and-pair before very long. It was no empty promise—many years before my dear mother died she could have had a dozen carriages. I see no need for the public school and university education for the youngster who is going into industry. They equip him with learning, that is of little practical value, and they take up valuable years,—time that should be spent in earning instead of spending. Why should a young man stay at school until 21 or 22? By that time, he might have worked his way up into a position where he can command respect and a salary. As it is, the average university product is valueless in business, and has to begin like some glorified office boy."

8. It is well that young man should begin at the beginning and occupy the most subordinate positions.
—Andrew Carnegie; *The Empire of Business*.

9. While in Europe and America dignity of labour is held high in estimation, the reverse is the case in India, especially with boys and young men who have been at school, not to speak of college. —*Ibid*, p.287.

10. "The testimony of some of the greatest of men in Science and in practical business will reveal the urgent need for reform in our universities." "I would not give a penny for the ordinary College graduate," says Edison. "An educated man is not one whose memory is trained to carry a few dates in history,—he is one who can accomplish things. A man who cannot think is not an edu-

cated man inspite of any number of however many college degrees, he may have acquired."—Henry Ford, the greatest manufacturer of automobiles.

11. "Universities created some other puppets in the so-called 'free arts' as law and medicine".

—Mussolini, p. 301.

12. A little knowledge, of an exact and perfect character, is always found more valuable for practical purposes than any extent of superficial learning.

—*Self-Help*, p. 378.

13. Too much guidance and restraint hinder the formation of habits of self-help.

—*Self-Help*, p. 380

14. There were wise, valiant and true-hearted men bred in England long before the existence of a reading public. Magna Charta was secured by men who signed the Deed with their marks.

—*Self-Help*, p. 385

15. The best culture is not obtained from teachers when at school or college, so much as by our own diligent self-education when we have become men.

—*Self-Help*, p. 422

16. "The true University of these days is a collection of books," says Carlyle in *The Hero as Man of Letters*.

17. Herbert Spencer rightly observes: "Even as appliances to intellectual culture books are greatly over-estimated" "Such is the prevailing bias that the indirect learning is thought preferable to the direct learning, and usurps the name of cultivation."

—p. 303.

18. Report on Education in India in 1928-29 by the Educational Commissioner, quoted in "Nature," Aug. 1, 1931, says:—"Of the University of Bombay, it is recorded

that the average student does not bother to read his texts but is content to learn by heart second-hand opinions on them, gleaned from cheap bazar cram-books".—p.305

19. Some thoughtful writer says: "The curse of University instruction is invariably the text-book."

—p. 306.

20. "The numerous compulsory class lectures and exercises that form today the basis of training in the universities should be abolished if the intellectual capacity of university students is to develop."—Sir P.C.Ray in his Convocation Address, 1926.

—p. 307

21. "The Universities are making parrots of them, and ruining their brains by cramming a lot of subjects into them." —*Swami Vivekananda.*

22. "What does it matter if this Higher Education remains or goes? It would be better, if the people got a little technical education so that they might find work and earn their bread, instead of dawdling about and crying for service". —*Swami Vivekananda.*

23. "The glamour of a foreign, specially British degree of qualification, has been the fruitful cause of a grave wastage of not only money, but also of time and energy. A recent report on the work of the Education Department, London, issued from the office of the High Commissioner for India, says that the total number of students in England, or the Continent and the United States America is not far short of 2,500. It has been calculated that about a crore of rupees is thus annually drained out of India, for which she gets a very poor and inadequate return." —*Life of Sir P.C. Ray*, p. 310, 311.

24. "It is a remarkable fact that the holders of foreign University degrees, though consider themselves as sacrosanct, when weighed in the balance side by side with the local University products, are often found wanting.

—*Ibid*, p 312.

25. "As indicative of the huge waste of time and energy of our youngmen during the most precious and determining period of his life the following table may be quoted here; it gives the number of students, during the session 1930-31, preparing for the M.A. degree in the Calcutta University.

—*Ibid*, p. 290.

<i>Subjects</i>	<i>5th year Class</i>	<i>6th year Class</i>
English	119	112
Mathematics	35	29
Philosophy	86	26
History	55	44
Economics	116	92
Commerce	23	20
Ancient History	14	17
Anthropology	5	6
Experimental Psychology	4	3
Comparative Philosophy	1	0
Sanskrit	19	20
Pali	2	2
Arabic	4	1
Persian	8	3
Indian Vernaculars	7	18
	449	393

The syllabus of study in English takes one's breath away. The list of authors with their works is simply

staggering and occupies five and a half pages in the Calendar. The entire field of English language and literature is covered from old English down to post-Victorian period.** The average M.A. in English excites as much ridicule as pity.

—*Ibid*, p. 291, 292.

Observations—By simply glancing at the above table, a man of judicious turn of mind would pronounce his verdict against vast wastage of public revenue of Bengal on the plea of imparting education by means of highly paid professors on such subjects as Anthropology (with 11 students), Experimental Philosophy (with 7 students), Comparative Philosophy (with 1 student), Pali (with 4 students), Arabic (with 5 students), Persian (with 11 students), Indian Vernaculars including Bengali, Hindi, Urdu (with 25 students in all). These classes of the University should be abolished. But in order to give impetus to the few students of these subjects, diplomas may be granted by regular Examinations by putting such questions by which real merit of the examinees be tested. If possible, certain scholarships should be given to the deserving M.A. degree holders on these subjects, if they prosecute further studies; or they should be encouraged with prizes, if they can produce useful books on the subjects; or help students prosecuting study of these subjects. This is the way of saving money, and at the same time encouraging learning. The University should utilise these savings for better purposes. No class should be held on any subject with less than at least 25 students. Money should not be wasted to impart education in a subject, if a sufficient number of students is not forth-

coming. It would be a wrong step to compete with the expensive educational systems of the richer countries. The law of demand and supply must hold good here also. Moreover, these subjects are not so very important, that if there be no coaching there will be actual deterioration of education. Students can study these subjects at home while earning money. The restriction of college attendance is objectionable in such subjects. If a proper enquiry be made, I think, it will be evident that the examinees on these subjects appeared only to secure M.A. degrees, and not for acquiring knowledge.

INSTANCES OF SELF-EDUCATION

1. H.T. Buckle (1821-1862), writer of the *History of Civilisation*, was a very delicate child. He scarcely knew his letters at 8, and till 18 had read little. At the age of 17 his health improved. In 1850 he could read 19 languages with facility. He managed to read 22,000 volumes.
—*Life of Sir P.C. Ráy*, p. 264

2. George Eliot, the great novelist, had no college education. She was an immense reader and well conversant with German and Italian.
—*Ibid.*

3. Elizabeth Barrett Browning, the poetess (1806-1861) was also practically self-taught. Her gift for learning was extraordinary; at 8 years old she had a tutor and could read Homer in the original, holding her book on one hand and nursing her doll on the other arm. She was of delicate health all her life.
—*Ibid.*

4. "Robert Clive was the despair of his parents, being, according to general opinion, voted a dunce, and who was shipped off to make a fortune or to die of a

fever at Madras."— *Macaulay's Essay on Lord Clive.*

5. John Bright was innocent of academic culture; Joseph Chamberlain was a screw-manufacturer; and W.H. Smith, the leader of the Conservatives in the House of Commons, "had spent his youth and middle-age in building up, almost literally with his own hands, an immense business." — *Sir P.C. Ray's Life.*

6. Lloyd George and Disraeli had no advantage of a university training, on the contrary both of them were self-taught. — *Ibid.*

6 a. "America seems to have followed Edison's advice in choosing men capable of doing work for the heads of various organisations needed in connection with the work. We may well believe she picked her best men."— Hankin's *The Mental Limitations of the Expert.*

7. Of the last four Prime Ministers of England only one has been a public school and university man, and more than two-thirds of the present British Cabinet have not the qualifications for a Calcutta Social Club.— *The Statesman*, 29th June, 1929. Mr. Ramsay Macdonald says, "The first employment I obtained was at the Cyclists' Turning Club, addressing envelopes, at a wage of 10 shillings a week. That, however, was only temporary work." He had a thirst for learning and was anxious to enter a University, but poverty stood in his way. "I, however," says he, "do not regret not having been to the University."— *Ibid.*, p. 269.

8. Some of the Presidents of the United States America were not educated in the Universities. — *Ibid.*

9. "Some of the great masters of English literature owe little or nothing to an academic career. Johnson, Gibbon and Carlyle kept some terms at the Universities, but they have left only disparaging remarks of their obligations, if any, to their *alma maters*. Bernard Shaw himself, perhaps the greatest of the living English writers, tells us that he had to become a clerk at fifteen; he therefore could not have secured the benefit of a college education. Spencer also was practically self-taught."

—*Ibid*, p. 270

10. The late Mr. B.N. Bose while a Member of the India Council requested a colleague of his, connected with a Banking House, to get a young Bengali apprenticed to his Bank. Learning that the young man was over 22 years and was a graduate, he shook his head and said, "My young friend, you have wasted the most precious periods of your life, and your case, I am afraid, is hopeless. We take in office-boys of 14 years of age, who have passed through a grammar school."

—*Ibid*.

11. Lord Cable (of Bird & Co. of Calcutta) came to Calcutta as a poor boy and received there all the schooling he ever had; but amassed a large fortune. Lord Inchcape (as Mr. Mackay) started from the lowest rung of the ladder.

12. The two great Masters of Iron and Steel are Henry Bessemer and Andrew Carnegie. Bessemer, who revolutionised the process of steel-making which goes by his name, "Knew nothing of metallurgy but that did not daunt him. He read everything that he could find on the subject." Andrew Carnegie, the multimillionaire and philanthropist, who began his career as a telegraphic

message boy, repeats almost the same story. He was, in one word, self-taught. Carnegie was neither an inventor nor a master of science. But few men have been more successful in adapting a great invention to the needs of his time than was Andrew Carnegie in seizing upon the Bessemer Process and using it for the expansion of American and world industry. It will thus be seen that it is not so much the possession of expert technical knowledge, but organising capacity, resourcefulness and initiative which are essentials in the making of a business man or a captain of industry.—“*Life and Experiences of P.C. Roy*,” p. 227.

13. “The late Mr. Pierpont Morgan, the American Banker, once said,” I can hire any expert for 250 dollars and make 250 thousand dollars with the information he gives me, but he can't hire me to do it for him.” —*Ibid.*

14. Mr. Thomas Bata of Moravia is reputed to have made £ 1,00,00,000 in 10 years. He is the world's biggest manufacturer of boots and shoes. Son of a poor village cobbler, he paddled, during his boyhood, boots and shoes from door to door, and now at the age of 55 he owns the world's biggest footwear factory turning out more than 1,60,000 pairs of boots and shoes a day and employing 17,000 hands.—*Daily Papers*, January 8, 1932.

15. In India also the few who have succeeded in founding big industries owe little or nothing to scientific or collegiate education. The late J.N. Tata, with whose name the Tata Iron Works and the Bombay Hydro-Electric Installation will be inseparably connected, had some sort of liberal education, it is true, as he studied for

two years at the Elphinstone College, Bombay ; but he had never picked up even an elementary knowledge of Chemistry, Electricity or Metallurgy. Sir Sarupchand Hukamchand of Hukumchand Electric Steel Co. does not even claim that much of literary distinction. He is, however, eminently gifted with shrewd business instincts which have raised him to the position of a great Indian industrialist. Bengal can boast only of one eminently successful business-man, namely, Sir Rajendra Nath Mukerji. Had he been a degree-holder (B.E.) he would have been a failure in life. —*Ibid*, p. 178.

16. "Biswa Nath Motilal, lately the Diwan of the Salt Golas, began life on 3 Rupees a month, and is generally understood to have amassed 12 or 15 lacs of Rupees. Ram Dulal Deb was a common *sarkar* (clerk) of the Dutta family of Nimtola. He became a millionaire by his industrial instinct. Moti Lal Sil of Calcutta, who was famous for his wealth, a century ago, began his career with a salary of Rs 10 a month. —*Ibid*, p. 279.

17. Instances of success in life without university education are innumerable. In India Mr. Ghanshyam Das Birla, whose views on trade, industry and currency problems command attention ; Mr. S.C. Banerjee of the Tata Construction Works, who showed wonderful talents and initiative ; Sisir Kumar Ghosh the famous journalist, Keshab Chandra Sen the great orator, Poet Rabindra Nath Tagore, Rajendra Lal Mitra, the antiquarian, Iswar Chandra Vidyasagar, Krishna Das Pal, Michael Madhusudan Datta, and several others were and are not University degree-holders.

18. Indian college students might be startled to read the following lines. Some 13,000 men and 3,000 women students in these colleges (of America) are entirely dependent on their own efforts during their stay at the college. The average under-graduate not holding a regular full time job, earns £ 30 to £ 70 a term (of about 9 months) and from £ 40 to £ 50 during the summer vacation (about 3 months)."

19. "Another Labour Leader the Rt. Hon. George Lansbury has recently (Dec. 1931) related the story of his early life and the hard struggles he had to go through; one or two extracts only are quoted below:—

"The most eventful episode in my life, apart from those of a political and public character, took place in the year 1884-85 when, with my wife and three children all under four years of age, and a younger brother who was not 11, I emigrated to Australia." **"At last I got myself started at stone breaking, it was a kind of blue metal granite which broke both my heart and my hands while hammering at it."** "This new job was that of a parcel delivery. I stuck at it for the rest of the time I was in Australia. My wage was 50 shillings a week and a house to live in at a place called Toowang, 5 miles out of Berisbane." "My first night's work on this job

* NOTE — Poor Indian students, who are learning in schools or colleges, should be given opportunities to earn something by manual labour to support themselves during their school and college career. They need not lose their time in games. It is the duty of the Education Department to encourage mental education along with bodily labour.

was most exciting. The parcel cart was open and the rain came down as it does come down only in the tropics. I had about 200 parcels to deliver at different places, and I did not know a single one of the addresses to which I had to go. I started about 6 P.M. and delivered the last packet of sugar about 4 A.M. the next morning,.....This achievement gave me a standing with the firm which I held for the six months I was with them. There is not much to tell about the work, except that the hours were from 8 in the morning until 12 or 1 o' clock next morning on many days." —*Ibid*, p. 285, 286.

20. Again of Mussolini we read—"He roamed the countryas a mason's labourer in Switzerland. He would sometimes find employment as a shopkeeper's porter or message-boy, when he would carry parcels of goods to the merchants' customers on his broad shoulders, or in a basket slung over his arm, or, if the goods were heavy and the houses distant in a hand-barrow. The money he thus earned helped to pay his class-fees and his board."

—A. Robertson on *Mussolini*, p. 49-50.

21. I should not fail to mention another instance—Lord Reading came to Calcutta the first time as cabin boy, the second time as the Viceroy.

—*Life and Experiences of P.C. Roy*, p. 287.

22. Galileo, when a youth of only 18, observing the swinging of a lamp in the cathedral at Pisa, conceived the idea of applying it to the measurement of time. Fifty years of study and labour, however, elapsed before he completed the invention of his pendulum.** Galileo, having casually heard of an instrument by means of which

distant objects appeared nearer to the beholder, addressed himself to the cause of such phenomenon, which led to the invention of the telescope. —*Self Help*, p. 142.

23. Sir Samuel Brown by observing a tiny spider's web, formed an idea that a bridge of iron ropes or chains might be constructed. The result was the invention of his suspension bridge. —*Self Help*, p.142.

24. James Watt, when consulted about the mode of carrying water by pipes under the Clyde, along the unequal bed of the river, turned his attention one day to the shell of a lobster presented at table; and from that model he invented an iron tube, which, when laid down, was found effectually to answer the purpose.

—*Self Help*, p. 142

25. Sir Isambard Brunel took his first lessons in forming the Thames Tunnel from the tiny ship-worm.

—*Ibid.*

26. When Benjamin Franklin made his discovery of the identity of lightning and electricity, it was sneered at, and people asked, "of what use is it?" To which his reply was, "What is the use of a child? It may become a man!" —*Self Help*, p. 144.

27. When Galvani discovered that a frog's leg twitched when placed in contact with different metals,—therein lay the germ of the electric telegraph. —*Ibid.*

28. The Marquis of Worcester's attention was first accidentally directed to the subject of steam-power by the tight cover of a vessel containing hot water having been blown off before his eyes, when confined a prisoner in the Tower. He published the result of his observations

in his "Century of Inventions", which formed a sort of text-book for inquirers into the powers of steam for a time, until Savary, Newcomen, and others, applying it to practical purposes, brought the steam-engine to the state in which Watt found it." —*Self Help*, p. 145.

29. Stephenson taught himself arithmetic and mensuration while working as an engine-man during the night shifts. —*Self Help*, p. 153.

30. Hugh Miller said the only school in which he was properly taught was "that wide-world school in which toil and hardship are the severe but noble teachers".

—*Self Help*, p. 264.

31. A young French officer used to walk about his apartment exclaiming, "I will be Marshal of France and a great general". He did become so. —*Self Help*, p. 265.

32. Dr. Livingstone at the age of ten worked in a cotton factory as a "piecer". He acquired knowledge by self exertion at that age. With his earnings as a factory workman, he attended the medical and Greek classes, as well as the Divinity Lectures, at Glasgow. He passed medical examination. He went to Africa as a missionary in 1840. **There he dug canals, built houses, cultivated fields, reared cattle, and taught the natives to work as well as worship. What he did in Africa, may be learnt from his own "Missionary Travels", one of the most fascinating books of its kind. —*Self Help*, p. 237.

CONCLUDING REMARKS

There might be some persons who are in favour of the present university system of education. In support

of their argument they would say that knowledge of the graduates and under-graduates on various subjects has increased. This is true, but when that varied knowledge is not put to any use, it remains dormant, and subsequently becomes useless. Unapplied knowledge is like raw metal; by giving it proper shape and afterwards polishing it, useful domestic utensils are made. Their other reason is that there are a number of examples of great men, who shone in the world and who came out from amongst the graduates of universities. This argument is reasonable to some extent. College education does polish the intellect. By remaining in contact with learned professors and fellow-students and having an easy access to college libraries, the college students have certain advantages over home-students. There are certain educationists who are advocates of the monopoly of the M.A. and Law Classes by the universities. I do not find out any sound reason for this kind of privilege of a university in exclusively holding M.A., Law, and such other classes in its buildings. Colleges are equally competent to hold such classes efficiently. Admirers of universities might show the advantages of unitary or residential universities of England and other countries. Notwithstanding the recommendations of the "Calcutta University Commission" of 1917-19, the idea of a residential university at Calcutta has been postponed for 15 years and might not be carried out in 35 years hence. The advocates of such universities should first study the gradual development of the foreign universities and their vast resources. It requires at least a century for the sturdy

growth of an oak or a mahogany tree. Famous foreign universities may fitly be compared to such trees. Instead of attempting to plant such trees in poor, dependent, and down-trodden India, let us try to plant such fruit-trees which might grow in 5 to 15 years and bear fruits. Schools for the masses may bear fruits in 5 years, and colleges for higher education may bear fruits in 5 to 15 years. I appeal to the tender heart of these advocates to think for a moment the hardship of a middle-class man earning Rs. 100 to 200 in sending 2 or 3 boys to the University of Calcutta or Bombay at a cost of Rs. 40/- to Rs. 50/- at least per month for each boy. It is the bounden duty of those advocates to devise practicable measures for the acquirement of higher knowledge by the intelligent, deserving and chosen students who can not afford to spend so much per month simply for attending university lectures. They should be allowed to pass higher examinations only by home study.

CHAPTER V

LONDONER'S EDUCATION

We should re-model our educational institutions by studying such institutions of advanced countries.

Let me give here a brief sketch of the education of 10,00,000 students in London, the biggest city of the world. The education is under the charge of the London County Council, half of the cost is borne by the Board of Education of England and the other half is paid by the Municipality. By reading the sketch you will observe that the tendency of the system is to make the pupils fit for some profession, so that they can earn their livelihood after leaving the school at the age of 17 or 18. Only a few students of special aptitude are sent up to Technical Colleges or Universities for higher education.

In 1870 the education was made compulsory and publicly controlled. Before this time, "the streets were swarming with waifs and strays, who had never attended school, a large number of whom habitually frequented the riverside, the London railway termini, etc. The children slept together in gangs in such places as the Adelphi Arches, on barges, on the steps of London bridge, in empty boxes and boilers, at Bankside in empty packing cases, down the shades covered with tarpaulins and old socks."

Another report says:—"The children's lives were a constant round of sunless drudgery,—they never played

as children play, they never seemed even to think; they were prematurely old, and victims of awful cruelty... Their mortality was high."

The following two reports taken from the "Council's records" show conditions in 1874:—(1) "82 children of different ages, boys and girls, huddled together in a miserable, badly lighted, badly ventilated room affording accommodation for 23 at the most." (2) "No books, no apparatus, no seats, floor and bare walls, the teacher, an aged man, standing in the midst of a crowd of children wielding a cane to keep the scholars quiet, and thus the time goes on."

According to the Report of the London County Council of 1924, it educates 10,00,000 pupils, employs 30,000 teachers and officials and spends about £ 1,26,00,000 a year—about 19 crores of rupees (at Rs. 15 per £).

There are about 1000 Elementary Schools for about 70,000 pupils. When the children attain 11 years of age, the Council select about 10% of the best children and admit them into the Central Schools, which are intermediate institutions between the ordinary elementary schools and secondary schools. In these Central Schools pupils go through a course of 4 or 5 years' instruction in preparation for employment at the age of 15 or 16. The instruction here is general rather than vocational;

Note:—The number of students in London is equal to the number of inhabitants of Calcutta. The wretched, illiterate and homeless children of the big cities of India can be counted by thousands in the year of 1934, i.e., 65 years after education was made compulsory in London.

but the curriculum has an industrial or commercial "bias" according to the needs of the neighbourhood and the wishes of the parents."

Every London Elementary School has a school care committee of voluntary workers who are interested in child welfare. Over 5,000 men and women generously give up part of their leisure to co-operate voluntarily with the London County Council in all matters affecting the physical and social well-being of London School boys and School girls. Over 2,00,000 school children are inspected every year by school dentists, and more than 1,00,000 of these receive treatment.

Each year 30,000 boys and girls in the London schools, are taught to swim. For the benefit of debilitated children in the London schools, a number of open-air schools and classes have been established. The parks and play-grounds of London are also utilised for open-air schooling. All told, about 7,000 children each year are selected by the school doctors for instruction under open-air conditions.

Special Schools

Schools for the Blind and Deaf	...	...	48
Schools for the Physically Defective	...	...	37
Schools for the Mentally Defective	...	...	78
Schools for Tuberculous Children	..	...	5
Total number of students about	...	...	14,030
Total annual expenditure about	..	...	£5,00,000

"London has probably the most complete system of special schools in the world. Children remain, as a rule,

in attendance at these schools until the age of 16 ; at 13, blind and deaf children are generally transferred to residential schools. Handwork is the predominant feature of the instruction ; many of the children are taught a trade, so that they may not become a charge upon the community." The average cost of conveyance for each of the 4,000 crippled children in London is about £ 10 yearly.

" The story of the special school service is full of pathetic interest, and many illustrations could be given showing how education can be made more compelling than infirmity ; how one boy, born without hands, has been awarded an art scholarship for extraordinary artistic ability ; how a blind girl secured high academic distinction ; how a crippled boy, after obtaining a scholarship, was the successful competitor in a design for an army ambulance ; how a girl, blinded in the Silvertown explosion, is being trained to become a certificated teacher ; and how another, both blind and deaf, passed the preliminary examination for St. Andrews University."

Finding Work for the Afflicted.

" From one school for deaf girls, which has had 450 pupils since its opening, 97 p.c. have been placed in employment ; of these 88 p. c. took up work for which they had been trained at school. Similar figures for a boys' school were 90 p.c. found employment, and 78 p. c. in trades which they had learnt at school."

Industrial and Reformatory Schools

Number of Children	...	...	...	2,500
Total annual expenditure	...	...	...	£1,00,000

These schools are provided for the education, training and maintenance of children who, owing to unfortunate home circumstances or in consequence of some offence (usually of a technical character), have to be removed from their homes by order of a Juvenile Court and sent to a residential school, where they are given opportunities for becoming useful citizens in afterlife. "There are 4 such schools in London. Many of the boys are trained for Army bands, others for farming, tailoring, etc. Girls are trained for different kinds of domestic work."

"Technical Education."—There are 3 varieties:—

- (1) Evening Institutes.—There are 191 Institutes with 1,20,000 students. 8,000 expert teachers are employed. Free tuition for boys and girls fresh from school. Low fees and scholarships for others. Students of all ages are taught.
- (2) Commercial Institutes.—Commercial and literary subjects or other aspects of education requiring class-rooms, as distinct from laboratories or workshops, are now taught right from the elementary to the most advance stages in evening institutes, thereby releasing at the polytechnics and technical institutes room for developments along technological and scientific lines. For instance, the commercial evening institutes in London provide vocational training for all commercial pursuits, from the first stages in book-keeping and shorthand to the final examinations qualifying for admission to highly skilled clerical occupations.
- (3) Other types of Institutes are open to meet the varied requirements of the Londoner. The chief of these are:—(a) Women's Institutes providing education in domestic and health subjects for

girls and women only. (b) Institutes with more than one department (*e. g.* junior commercial and junior technical). (c) Men's Institutes, providing educational and social opportunities for the study and discussion of men's interests, pursuits and callings.

Literary Institutes, for students over 18 years of age desirous of learning cultural subjects, such as the arts, æsthetics, history, literature, modern languages, philosophy, and other humanistic subjects. Junior commercial and Junior technical institutes for students under 18, who, as a rule, take a "course of instruction covering three evenings a week. Students in evening institutes are taught by expert instructors; probably 80 per cent. of these follow the trade or profession they teach. Thus, law is taught by lawyers, hygiene and medical subjects by doctors and nurses; accountancy by chartered accountants; journalism by journalists; and so on. Day Continuation Schools.—There are 11 such schools with 5,000 students. Trade Schools.—There are 19 such schools with 200 students. Boys at these schools are taught furniture, cabinet making, and woodwork trades; wood carving; carriage and motor body building; building, carpentry, masonry, bricklaying, plumbing, painting and decorating, and architectural drawing, engineering and metal work trades; silversmithing, jewellery and engraving; professional cookery and professional waiting; photo-engraving and photo-process work; book printing and book binding; and tailoring. Girls are taught photography, dress making, embroidery, tailoring, laundry work, domestic service, etc.

The London Polytechnics.—The London Polytechnics and other technical institutes partly supported, or “aided”, receive from the London County Council about £ 3,50,000 annually. The London County Council recovers half of this expenditure from the Board of Education.

Scholarships for the Clever Londoners.—At the end of 1923 about 16,500 boys and girls and older students were holding scholarships awarded by the London County Council.

Secondary Schools.—There are 74 such schools with about 31,000 pupils, 38 per cent. being free pupils. The benefactions of dead and gone Londoners bring in over £50,000 a year for secondary school endowments.

University Education and Training Colleges.—Annual grants to the University of London are £ 85,000, to colleges and polytechnics for education of university standard £ 50,000.

The Training of Teachers.—Four Training Colleges are maintained by the London County Council. Few Londoners realise how much London teachers strive to keep abreast of modern education methods. Many teachers become students again when their young charges have gone home. They attend conferences to discuss school improvements, help to prepare memoranda and publications dealing with new ideas; attend special lectures and classes for teachers which are held so that they themselves may learn, for their school lessons from men and women of outstanding reputation in commerce, history, literature, pedagogy, philosophy, and Imperial affairs.”

Extracts from *Londoner's Education: its History and Development*, 1924. Price 9 d., can be had from

University of London Press, 17, Warwick Square, London,
E. C. 4.

Motto on the title page of the pamphlet:—

“Henceforth the school and you are one,
And what you are, the race shall be.”

The following extracts from the pamphlet “The London Education Service,” 73 pages, will, it is hoped, be read with interest. It is published in 1933 by the “London County Council”.

“From the mediæval times to the early years of the nineteenth century elementary education was supplied mainly by religious organisations. Schools met their expenses from endowments, private beneficence and fees. In 1833, Parliament voted £ 20,000 for public education; this was the first of the annual grants which has since been continued without interruption. At that time there was no State Department for education.” “In 1870, Parliament passed the “Forster” Act, the first comprehensive measure for elementary education. —p. 5.

“During the nineteenth century the State began to aid higher education. The Great Exhibition of 1851 led to the formation of the Science and Art Departments.” —p. 6.

“The system (of education) in England and Wales to quote from a recent pamphlet of the Board of Education, (H. M. Stationery Office, price 9 d.) “An Outline of the Structure of the Educational System in England and Wales differs in three main respects from the systems to be found in many European countries. These characteristic features are (1) the decentralisation of

responsibility and controls, (2) prominent part played by voluntary agencies, (3) the freedom of teachers from official control in questions relating to curricula, syllabuses of instruction and methods of teaching."

"In the schools, institutes and colleges maintained or aided by the "London County Council" there are nearly 9,00,000 pupils. Of these, about 6,05,000 are children under 14 years of age, about 1,39,000 are adolescents between 14 and 18, and about 1,52,000 are adults. The youngest are babies in nursery schools, the oldest grandfathers and grandmothers who still attend evening schools." —p. 9.

"Elementary education must be provided for all children between the ages of 5 and 14 years. For children attending public elementary-schools, attendance is compulsory from the end of the school term in which the child reaches the age of 5 to the end of the school term in which he reaches the age of 14. Children under 5 and over 3 may be admitted, but their attendance is not obligatory." —pp. 17 and 18.

"Provision is made for all boys to receive instruction in handicraft, and for all girls to receive instruction in domestic economy. The great majority of the handicraft centres are for woodwork. In many of them, provision is also made for instruction in simple, light metal-work." "Physical education is a compulsory subject of instruction." —p. 22.

"Children 11 years old and over are eligible to receive instruction in swimming." —p. 23.

"The Council pays the examination fees for certificate issued by the Royal Life-saving Society. Many London

boys and girls have received awards from the Royal Humane Society for saving life at the risk of their own."—p. 24.

"The Council allows organised parties of children, accompanied by teachers, to attend displays of a high quality at public cinemas out of school hours"—p. 24.

"Children learn to sing and to appreciate melody and rhythm."—p. 26.

There are all sorts of arrangement for giving instruction on different subjects, such as, polytechnics, mono-technics, school of art, trade schools, commercial institutes, junior commercial institutes, junior technical institutes, literary institutes, women's institutes, training of teachers, nautical instruction, wireless reception, school journeys, university education.

The Council maintains three nursery schools and makes grants to twelve others. Children can attend when they are two years of age; they leave at five. It is more of a home than a school: a preparation for school rather than a school itself.—p. 57.

"There are about 10,150 children in the London Special schools. They are classified as follows:—

Blind	...	...	...	200
Partially blind	...	...	...	800
Deaf	...	...	...	550
Partially deaf	...	...	...	200
Mentally defective	...	...	...	4,400
Physically defective	...	...	...	4,000
				Total
				10,150.

Further, 2,500 children who are anaemic or debilitated or predisposed to tuberculosis attend day open-air schools.

In the schools conducted in children's hospitals about 2,000 children are under instruction. In addition, about 4,000 delicate children are sent each year for short periods to residential open-air schools. There are thus nearly 19,000 London children attending special schools of one kind or other."—p. 59.

"Nearly half the time of the mentally defective children is given to manual occupation." "Physically defective children may be classified broadly in two categories, *viz.* cripples and those with heart trouble. A fleet of 72 motor ambulances is employed to take to and from school children who cannot travel by public vehicles."—p. 61.

"There are now 15 day open-air schools in London, 9 being for anaemic and debilitated children, and 6 mainly for children predisposed to tuberculosis." "The average length of stay of children in these schools is about 18 months."

"In the past, the Metropolitan Asylums Board and certain Boards of Guardians conducted schools in various children's hospitals, to which London children were admitted. The schools in these hospitals are now administered by the Council as special schools."—p. 62.

"The Council is concerned with the welfare of children and young persons who are "delinquents", or who are shown to be in need of care and protection. They come to the Council's notice through the juvenile courts which were established under the Children Act, 1908. Their appearance in the courts is due, in the case of delinquents, to specific arts, mainly larceny, which have brought them into conflict with the law of the land, and, in the case of the neglected, to technical offences (*e.g.*, wandering, and

having no home, or living in bad home circumstances) which entitle them to the protection provided by the Act." —p. 63.

"There are, unhappily, always a number of persons, who through poverty or misfortune, are obliged to seek relief in public institutions. Many such persons are the parents of children of school age. In 1930, the maintenance and education of these children become a responsibility of the Council under the Local Government Act, 1929." "In all, the Council maintains and educates between 8,000 and 9,000 destitute children who have lost their parents, or whose parents have been compelled to apply for public assistance." Such children are kept in "Residential Schools and Homes for destitute children."

Let me quote some important Statistics from "*Board of Educational Pamphlets*," No. 94, 1934.

Some approximate Statistics of public education in England and Wales in 1932.

Population of England and Wales ...	4,00,00,000
Total number of Pupils in public	
Elementary Schools	56,00,000
Total number of Pupils in Secondary	
Schools	5,16,000
Full-time Teachers in Grant Aided Schools	22,000
Number of students in junior full-time	
courses in Vocational Schools and further	
Education	23,000
Number of students in Senior and other	
full-time courses	15,000
Number of students in part time day classes	45,000

Number of students in part-time evening				
classes	...	...	...	9,16,000*

Observation.

The authorities responsible for the education of Indians should read and re-read this chapter on "Londoner's Education" carefully, and ponder over the advantages of imparting general education to the children of India. They should make further enquiries about the systems of education now prevalent in the advanced countries of Japan, Germany, Italy and United States of America, for equipping the children of these countries for fighting the battle of life. Our primary object should be to disseminate general and technical knowledge amongst the children of India,* although our secondary object, to produce undergraduates and graduates, might remain intact to a necessary extent. Let us try our utmost in remodelling the schools of at least the principal cities of India. The education authorities of the countries named above specially England, are admittedly more experienced in the matter of imparting practical and useful education to their children. Indians have a good deal to learn from them in this connection.

*" Altogether nearly a million young persons and adults take advantage of Vocational Courses, i.e., instruction definitely related to employment. This may be either full-time instruction in preparation for employment upon which the student has not yet entered, or part-time instruction which the student attends after entry into employment. Attendance is voluntary. The great majority of general courses are held in the evening."

CHAPTER VI

PREJUDICES ARE OBSTACLES to EDUCATIONAL REFORMATION

Freedom from prejudices is the *sine qua non* in settling educational principles.

Let me give some instances showing how educated persons, and even kings and heads of Government of civilised countries are enchained by prejudices; and how they have persecuted or obstructed celebrated scientists and inventors in the performance of their good works done for public good, or for amelioration and progress of mankind. Even in the advanced 20th century a large number of prejudices has enslaved the mind of peoples and governments of all countries on important individual, social, political or international matters. For achieving progress of India, Provincial Societies for the Removal of Evil Customs with regard to the matters of Education and Religion should be formed and All India Conferences should be held every year or every third year. Members should be selected from amongst men of all principal educational institutions and religious societies of India. These Societies and Conferences are, in the present state of India, more important than Mathematical, Historical, Philosophical, Geographical and similar Societies, because evil customs are poisoning national life; and without removing them India cannot advance with ease.

Cent per cent of barbarous nations act and behave under the influence of prejudices centuries old. Their motives and modes of living are influenced by prejudices. Prejudices are offspring of ignorance. One might imagine or believe that the present system of education has already dispelled *all* prejudices from the mind of the educated people. That this idea is wrong, can be proved by actual facts, and existing states of things. For example, not only learned Sanskrit Pandits or Maulvis, but men of literature, who have not studied physiography or physics, have strange notions regarding the earth and its movements; and about light, heat, sound and electricity. Philosophers and theologians can have no idea of the human soul and the Divine Soul,—because they are transcendental things, beyond the reach of mental faculty. Even a large percentage of peoples of civilized countries are enchained by prejudices, and consequently groaning under evil manners and customs. If we study the modes of living of the savage, as well as the so-called civilised nations, we shall find the existence of a large number of cruel customs amongst them. Not only during the wars do the civilised nations act like ferocious animals against their enemies; but even during the days of peace they have enacted such cruel laws for torturing innocent people for their entertaining antagonistic notions about religion, philosophy and science, however noble or true those notions might be. Hundreds of persons were cruelly tortured, slaughtered, imprisoned, or excommunicated in the name of religion. Great philosophers, scientists and religious reformers were cruelly persecuted. Even in the

present days, in India, hundreds of Hindus and Mahomedans were tortured or killed by each other on account of religious prejudices and bigotry. Even among the so-called educated people of different religious faiths you will find deep-rooted hatred against other religionists. Unless the Hindus and the Mahomedans, especially their young men and women, are educated in the essential truths underlying the teachings of the founders of principal religions, the strained feelings between them cannot be rooted out. Religious books containing the essentials of religions should be jointly compiled by Hindus and Mahomedans. Such books should be taught to persons of both the sects. Until and unless this is done, there cannot be continuous unhampered progress of the Indian nation as a whole.

I have introduced this chapter to show, by some examples, that even in civilised societies and nations prejudices reign supreme. They can be uprooted by two principal methods,—one by imparting liberal education based on reason, experience and common sense; and the other by experiencing for years the pain and losses of a severe nature. I have presented the following examples before the educationists of India with the object of awakening their sense of performing their duties in this matter, setting aside all prejudiced or pre-conceived notions. We have already seen the undesirable effects of the present educational system of India prevailing for the last 50 years. Now it is time for a thorough reformation. Prejudicial notions are great obstacles in the onward progress of education.

Instances of Prejudices

1. Ambrose Paré, the great French surgeon, was the son of a barber and was born in 1509. His parents were too poor to send him to school. Paré apprenticed himself to a barber-surgeon and worked under him for 4 years. He then went to Paris to study at the school of anatomy and surgery and was admitted a master barber-surgeon. To stop bleeding from gunshot wounds, the barbarous expedient was resorted to of dressing them with boiling oil. Haemorrhage was also stopped by searing the wounds with red-hot iron and when amputation was necessary, it was performed with a red-hot knife. He substituted a mild and emollient application; he tied arteries with ligature, instead of actual cautery. His practice was denounced by his surgical brethren as dangerous, unprofessional, and empirical. He placed on the record the results of his surgical experience in 28 books. Gradually his system was approved.

—*Self Help*, pp. 160, 161.

2. Harvey spent not less than 8 long years of investigation and research before he published his views of the circulation of the blood. It was received with ridicule, as the utterance of a crack-brained imposter. It was even averred that his views were calculated to subvert the authority of the Scriptures and undermine the very foundation of morality and religion. His little practice fell away, and he was left almost without a friend. But after a period of 25 years, it became gradually recognised as an established scientific truth.

—*Self Help*, p. 162.

3. The difficulties encountered by Dr. Jenner in promulgating and establishing his discovery of vaccination as a preventive of small-pox were even greater than those of Harvey. After 20 years of observation and experiments he published his views in 1798. How was his discovery received? First with indifference, then with hostility.** He was even caricatured and abused for his attempt to "bestialize" his species by the introduction into their systems of diseased matter from the cow's udder. Vaccination was denounced from the pulpit as "diabolical". It was averred that vaccinated children become "ox-faced", that abscesses broke out to "indicate sprouting horns" and that the countenance was gradually "transmuted into the visage of a cow, the voice into the bellowing of bulls." ** Jenner's cause at last triumphed, and he was publicly honoured and rewarded. In his prosperity he was as modest as he had been in his obscurity. He was invited to settle in London and told that he might command a practice of £ 10,000 a year. But his answer was, "No! In the morning of my days I have sought the sequestered and lowly paths of life—the valley, and not the mountain,—and now, in the evening of my days, it is not meet for me to hold myself up as an object for fortune and for fame." —*Self Help*, p 165.

4. Although it was a popular belief that no slave could breathe in England, there were legal men of eminence who expressed a directly contrary opinion. Lord Chief Justice Mansfield, and all the leading counsel, were decidedly of opinion that the slave, by coming into England, did not become free. Granville Sharp, although an ordinary

clerk, published in 1769 a tract, "On the Injustice of Tolerating Slavery in England." By his vigorous exertions he firmly established the glorious axiom, that as soon as any slave sets his foot on English ground that moment he becomes free. He laboured to ameliorate the condition of the native Indians in the American colonies. After years of protracted struggle, the slave trade was abolished. —*Self Help*, Ch. VIII.

Although slavery has been abolished in several civilized countries of Europe and America, still oppression of powerful nations over the aboriginal tribes is to be observed even at the present time. Even now the conquered peoples of several countries are treated as slaves.

5. For centuries there was a law in England that one cannot marry his wife's sister,—perhaps because she is called 'sister-in-law'. Amongst the Hindus there is no such prohibition:—after the death of one's wife, he can easily marry her sister, if she be of suitable age. Or, where there is polygamy amongst certain castes of the Hindus, a man can marry two or three sisters at a time. According to the law of eugenics, consanguine marriages are not advisable. If there be no consanguinity between the husband and his wife, there can be no consanguinity between him and his wife's sister.

6. The Protestants have more faith in the revelations of the New Testament, but the Jews do not believe in the divinity of Christ and the revelations of the New Testament, and they are guided by the Old Testament. Either both the Protestants and the Jews are right, or one of them is right and the other wrong, or both of them are wrong.

There can be no fourth reasonable conclusion, unless it is believed that certain portions of either Testament are fallacious.

7. Since the dawn of civilization, animosities and hostilities, sometimes of severe types, do exist between the followers of different religions on account of outward religious customs, observances and ceremonies. Yet on account of great influence of prejudices, the leaders of the followers of those religions have not held constant conferences to consider the causes of the strained feelings, sometimes of hatred and anger, and to remove or change the causes. It should be once for all settled amongst themselves that true religion consists only in internal faith and devotion for the God or gods or for Incarnations and True Guides; and that outward ceremonies, which have their origin at different times under different circumstances, are immaterial.

8. When George Stephenson, after constructing his first locomotive steam-engine, asked permission of the Parliament to open railway lines, he was refused permission on some flimsy pless, that the smoke of steam-engines will envelope the railway track, the cattle will be scared and scattered, etc. It took a long time for the educated and advanced members of Parliament to set aside their prejudices and unfounded fear in the matter, and allow the opening of the line.

9. Homeopathy is a system of medical treatment by which a disease is cured by remedies which produce on a healthy person effects similar to the symptoms of the malady to be cured;—the remedies are usually given in

minute doses. Samuel Haneman (born 1755, died 1843), at first an allopathic medical practitioner of Germany by getting M.D. degree, discovered this grand system by thorough investigations and experiments made in course of several years. He proved several medicines on himself. He published several books on the principles and practice of his system. During his life-time he had to suffer a good deal on account of prejudicial attacks and persecutions of the medical practitioners of the old school of allopathy. Now people of several civilised nations of the world are being treated by doctors of homeopathy. Eminent physicians, holding diplomas of allopathic schools, have adopted this new system and millions are deriving immense benefit for two centuries by the use of homeopathic medicines. It is a matter of regret that on account of the prejudicial notions of allopathic doctors, the British Government have not opened homeopathic schools, colleges and hospitals and have not recognised the utility of this system; although a great percentage of people have proved themselves more sensible in this respect by rejecting allopathic medicines in favour of homeopathic medicines and have opened homeopathic schools and colleges in the principal cities of India. On account of similar official prejudices, the Government have not opened Ayurvedic schools, colleges and hospitals

10. *Cremation vs. Burial.*—The Hindus are cremated, but the Mahomedans and the Christians are buried, although in the Quran and the Bible there is no rule prohibiting cremation and advocating burial. The Grecians practised cremation. In Rome, at first only the bodies of

the rich and well-known leaders were burned, but cremation became universal during the early years of Christianity. Then cremation fell into disuse in Europe since the 4th century. "Cremation Society of England" was formed in 1874. Since then only a few thousands of persons were cremated. It is superfluous to state that in points of economy and sanitation, cremation is far better than burial. But utter ignorance about the benefits of cremation and the evils of burial, and the deep-rooted prejudice regarding the resurrection of dead bodies on the day of final trial to be held after centuries, when the bodies will be converted into earth, have blinded the eyes of civilised and half-civilised nations of the world. Common sense and scientific education have been unable to remove the cataracts of ignorance and prejudice from the blinded eyes of so-called educated persons in this respect.

Observation

As only the learned persons are at the head of the education department, one might imagine that they are above prejudices, and that they are guided by reason. But such is not the case. Few persons of the department devote sufficient time and energy in considering the future advantages or disadvantages of the students in learning certain subjects, and fewer still have the courage to raise their strong protest against the defective long-established courses of study. Although the study of almost all subjects is helpful towards the culture of the mind, still it is our duty to distinguish ornamental from useful knowledge, unprofitable from profitable study, and bookish education from self-acquired education. A

trader or manufacturer annually prepares his balance-sheet to calculate his profit and loss; a good doctor watches the action of his medicine on the patient; but I do not know of any university of India which keeps record of the worldly success or failure of the graduates in course of 5 or 10 years after their getting degrees. I think most of the school teachers take adequate interest and pains in teaching their classes; but several highly paid professors of colleges and universities finish their lectures at stipulated periods, without taking active interest in the education of the students. Like the provincial text-book committees, there should be independent advisory bodies with the Director of Public Instruction to fix the course and curriculum of studies. The senate or syndicate should thoroughly reform the course or curriculum of a university every third or fifth year by studying the actual difficulties and facilities of the students. They should not be guided by prejudices and stereotyped methods.

This chapter is introduced to prove that even educated people of the 20th century are enchained and enslaved by prejudices; and that you will scarcely find men of independent spirit, advanced ideas, unfettered progressive views, and innate tendency for reformation. Prejudices in the domain of religion have generated religious bigotry and fanaticism, hatred and enmity all over the world in all ages. I presented about 300 copies of my book "Educational Museums at the Educational Centres of India" to the Vice-Chancellors and some Fellows of Universities of India, Directors of Public Instruction and Public

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Health, Authorities of Museums of India, Ministers of Education of different Provinces, several Principals of Colleges and Head Masters of High Schools, Municipal Corporations of the principal cities, and similar Corporate bodies, and officers, editors of journals and newspapers, and some educated gentlemen. But it is with a heavy heart I have observed that with a few exceptions, the recipients of the book seldom cared to admit the importance and necessity of Educational Museums or have taken active interest for their establishment. Some museums of India are founded with fossilized ideas that old coins and inscriptions, ancient statues and relics are very useful things for the education of the Indian people. They might be interesting to those who have the hobbies for those things. But general students and the people in general cannot gather much useful knowledge out of these costly collections. Museums should be reformed according to the present requirements and education system should be remodelled with regard to the necessities of the time.

CHAPTER VII

SUBJECTS OF STUDY

and

THEIR COMPARATIVE VALUES

Subjects of study in Indian schools and colleges should be introduced, continued or reduced after thorough investigation into their utility.

The value of an object is generally determined according to its utility. Similarly the value of a subject of study should be determined in accordance with its usefulness to the people of India. This value changes according to time, circumstances and capacity of student. During the time of the Moghul rule, study of the Persian and Arabic languages was beneficial. If an Indian has determined to settle in France, he should study the French language; if a blind person is willing to write in English language, he must learn the Braille system; if a student wants to join a Medical College, he should take up Chemistry and Biology as preliminary course; if he wishes to be an engineer, he must learn higher Mathematica. For an astronomer, Chemistry or Economics has no value. For a tailor, the knowledge of tailoring has 100 p.c. value; and for a typist that art has 75 p.c. value and learning of the English language 25 p.c. value. Now we see how the value of a subject is determined. From the explanation suggested above, we can easily deduce that,—Intrinsic

value of a subject of study varies from zero to 100 per cent. according to its utility. There are many subjects taught in the London University, and they have certain values put on them; but as some are useless in the Indian Universities, their values here are nil. Similarly, the dialects of India which have high values put on them by Indian schools and colleges, have no value in the foreign universities. Those universities know how to choose their subjects. But it is to be regretted that the Indian universities, such as the Calcutta University, at the suggestion of some of its members who had a prejudice for some subjects, had unjudiciously and in an inauspicious moment selected some subjects, and included them in its curriculum, and continue to maintain them at a great expense without minding the consequent wastage of public money. The university authorities should consider how the merchants calculate their profit and loss every year by stock-taking, and continue or discontinue or introduce certain business according to their calculations. In the same manner they should stop the teaching of certain subjects or introduce new subjects if they are thought useless or useful. If we consider the present time, circumstances, and benefits of the students, we shall have to exclude those subjects, such as Pāli, Prākṛit, Anthropology. Before including any subject in the curriculum, a thorough investigation of its utility should be made, that is, it should not be included at the suggestion or recommendation of a prominent member, who may be simply guided by his personal likes and dislikes towards certain subjects.

As the *intrinsic* value of every subject varies, so the *comparative* values of different subjects will vary according to their utility. All of us know that the prices of a material thing change according to its demand by the public, according to the extent of its availability, and to the nature of the customers,—for example, the price of a pearl may be offered as Rs. 100/- by a middle-class man, Rs. 500/- by a rich man, and Rs. 1,000/- by a king. There are other causes of the variations of prices of an article. Anybody can ask me the cause of my putting a value to a learning what is abstract. This behaviour of mine will appear strange, until I express my purpose in doing so. Knowledge for its own sake is above value; but when the knowledge of a subject is applied for worldly gain, we can set a value to it. For example, if a person acquires a good knowledge of law, he can earn thousands of rupees per month by being a Barrister, but a tailor can hardly earn Rs. 50/- by his labour. I will not be wrong, if I put at least 20 marks to law and 1 mark to tailoring. But for a professional tailor, I should put 20 marks to tailoring, because he lives by that art.

Before the art of printing was introduced, the number of books in manuscript was insignificant in comparison with the number of printed books, journals, and newspapers of the 20th century. Perhaps it would not be an exaggeration to state that the present number of them is thousand times greater. If single copies of printed books, pamphlets, newspapers, etc. of the world are now collected at one place, it would require several big buildings to hold them. It might take thousands of years to study

them. The subjects treated in the books are too numerous to enumerate. Some subjects are useful, some are ornamental, others are useless trash. Tastes of the people in editing or perusing these books vary considerably. Certain persons derive real benefit from these books; while others lose their valuable time, money and energy, and over-strain their eyes and brain in perusing a large number of books. For example, there may be three or four hundred thousands species of animals, and there might be as many species of plants on the surface of the earth. It might take thousands of years for thousands of persons for the proper investigation and study of them. Wise and sensible persons try to know the uses of some ordinary edible and medicinal plants, and to study the natures of insects and animals which are either beneficial or injurious to mankind. They do not waste their valuable time and energy in useless investigations. The case of the naturalists is an exception to this statement. They have imposed upon themselves the task of studying them. Such is the case with the vast number of books. Intelligent persons make right selection out of these numerous books and study them to their advantage. Young students require the guidance of educated persons in making selections. It is the imperative duty of controllers of the education system of India to save the time, energy and money of the students as much as possible. They should teach the students such subjects as are necessary in fighting out the struggle of life in the world. The cramming system in India is in full swing now as it was 50 years ago,—rather in an accelerated form. This system is highly objection-

able, distasteful and injurious. In this matter common sense and reasoning have been disregarded; vested interests in the education line have been created and established; time, money and energy of the students have been criminally wasted; time and energy of the teachers are not well-directed,—although they get their pay as remuneration. The net result of all these things is the universal complaint of unemployment of the graduates and undergraduates. The highly paid professors of the universities are like members of a happy family. They are sensible enough not to cut down the branches over which they are sitting on, as is told of Kalidas the poet in order to show his compound ignorance. For example, the Calcutta University has employed in the year 1930-31 a large number of highly paid professors in both the 5th and 6th year classes for teaching 11 students in Anthropology, 7 students in Experimental Psychology, 1 student in Comparative Philosophy, 4 students in Pāli, 5 students in Arabic, 11 students in Persian. (Read the article on this subject written by its late Vice-Chancellor in the "Modern Review", of July 1925). These subjects are not useful to the worldly prospects of the students. I think that most of the students go in for these subjects simply to get M.A. degrees. Thousands of rupees annually spent in this fashion can be well utilised in educating hundreds of students in practical and technical arts; and in thus solving the bread problem of the students to some extent. The past and present civilised and rising nations of the world have not prospered by this kind of bookish knowledge. A student who would go in for the medical profession, should not fritter away his

energies in studying history or mathematics. The system of education which compels him to do so is defective. It is one of the sound principles of education to encourage a student in the study of a subject according to his inclination and aptitude. It is wrong to compel a student who has a taste for painting, to learn mathematics or philosophy. The persons who are in charge of education in India have committed this mistake for half a century in compelling such students as have a natural tendency in some branch of technology, to study in the F.A., B.A., and M.A. classes for 6 years.

Let me write a few lines to explain my object in presenting a long list of the subjects of study before the readers. It is the inherent nature of man to think that the subject he is studying is very important, and that it has preference over other subjects. The first notion is reasonable, but not the second one. A mathematician generally gives preference to mathematics, a philosopher to philosophy, a chemist to chemistry, and so on. Allopaths think of spreading their medicines, whereas the homeopaths consider those medicines as harmful; lawyers think that courts of justice are doing a great service to society; some reformers say that litigation is a new evil in India. It is no wonder that university-men are trying to prove that the present system of university education will do a great deal in the onward march of the nation. They are giving preference to certain ornamental subjects over useful subjects. I have written this chapter in order to submit before them my objection to the above idea. As I believe that all the subjects mentioned in the list are important

to different persons under different circumstances ; and that no subject is *negligible*. As for the full and harmonious development of an individual, he should culture his physical, mental and moral nature, similarly for the simultaneous progress of the people, all kinds of knowledge are *necessary* according to the capacity of the recipients and the necessities of the hour, because a nation is composed of people of various classes studying different subjects.

Classification of Subjects of Knowledge and their Comparative Values

I have taken a perspective view of the whole range of principal subjects of knowledge and divided them broadly into 12 classes;—out of which 9 classes and some subjects of the remaining 3 classes are already taken up by the Indian schools, colleges and universities. I am proposing before the public for the gradual adoption of the remaining 3 classes of subjects partially or fully according to favourable circumstances;—which do not come of themselves, but are to be brought about or created by the ingenuousness and self-sacrificing industry of the people, who should remember that Government will not take the initiative step, but might help the people in their endeavour afterwards. I have purposely omitted several sections of each branch, because their insertion will make the clear perspective view indistinct. I have chosen the total number of marks as 1000, instead of 100, for these 12 classes ; simply to avoid putting fractional numbers to the different branches of each class, and to different sections of each branch. These marks somewhat

represent the comparative values of different classes, branches of each class, and sections of each branch. Although these marks are the products of guess-work, they will show to the readers of this book how much value I have put to each class. Everybody has option to put different marks to each class or branch or section according to his own estimation. But as he is bound by the limit of 1000 marks, he cannot put extraordinarily high marks or value to some of his favourite subjects according to his whims or predilections by subtracting so many marks or so much value from other subjects.

I have put 50 marks to Class I Primary Education and 50 marks to Class II Secondary Education, because on account of their being the foundation of knowledge, they have great value. Unless the majority of the 95 per cent. illiterate masses are educated by elementary books and illustrative lectures, the people of India cannot be uplifted. As Matriculation (Class III) is like the plinth height, it should be strong enough to bear the superstructure of the three storeys,—Class IV—F.A. or F.Sc., Class V—B.A. or B.Sc. or B.L. and Class VI—M.A. or M.Sc., I have put 100 marks to matriculation. To each of the 3 Classes V,—B.A. or B.Sc., VI, M.A. or M.Sc., VII and VIII, Engineering, and Class IX, Medical Course, 50 marks are assigned. As Class X contains 1½ branches of Medical Treatment or Science, which are equally important as the course of Indian Medical Colleges, their value or marks should be the same as 50. Branches of Polytechnics (including numerous Handicrafts) in Class XI are the means of

earning livelihood of the majority of the people,—200 marks are adequate for them. As the Miscellaneous Subjects in Class XII have their great utility to a large number of people, 200 marks are not too many for them.

**Classification of Subjects of Study
and their Comparative Values.**

	Marks
I. Primary Education	50
II. Secondary Education	50
III. High School upto Matriculation	100
IV. A. First Arts	} 100
B. First Science	
C. First Commerce	
D. First Agriculture	
V. A. Bachelor of Arts	} 100
B. Bachelor of Science	
C. Bachelor of Commerce	
D. Bachelor of Law	
VI. A. Master of Arts	} 50
B. Master of Science	
VII. Civil Engineering	} 50
VIII. Mechanical and Electrical Engineering	
IX. Medicine and Surgery (general)	50
X. Branches of Medical Treatment or Science	50
XI. Branches of Polytechnics (including Handicrafts)	200
XII. Miscellaneous subjects	200
Total value	1,000

Classification of Subjects of Study

I. Primary Education.* In vernacular;—

(1) Reading, (2) Writing, (3) Arithmetic, (4) Names of common things and their uses by showing originals, models or pictures, (5) Rules of Health and Hygiene.

In higher primary classes, the first three subjects in English with the aid of primers.

*NOTE.—In the primary classes, instruction by means of plays should be given as far as possible.

II. Secondary Education.

(Upto 3rd class of matriculation)

(1) Vernacular language and grammar, (2) English language and grammar, (3) Arithmetic, Algebra and Geometry, (4) Geography and Physiography, (5) Short Indian History, (6) Any of the following subjects:—

(a) Drawing and Handiwork.

(b) Physical Training, Health and Hygiene, Effects of Intoxicants, and Dietary.

(c) Elementary Physics and Nature-study.

(d) Drill and Scouting with ordinary music.

(e) Uses of common tools (to awaken manual dexterity)

(f) For girls;— Cooking, Sewing, Needle-work, Spinning, Knitting.

III. Matriculation or High School Examination.

(1) An Indian Vernacular, (2) English Language, (3) Mathematics, (4) Short English History, and any two of the following subjects: (5) Physics, (6) Chemistry, (7) Mechanics, (8) Agriculture, (9) Rudiments of a

Classic Language, (10) Drawing and Painting, (11) Manual Training, (12) Physiology and Hygiene.

IV. **A—F.A., B—F.Sc., C—F. Com., D—F. Agriculture** (each two years course).

A—First Arts. (1) English, (2) Mathematics, (3) An Indian Vernacular, (4) Letter-writing and Simple Accounts.

B—First Science. Any two of the 4 subjects, Nos. (a), (b), (c), (d).

(a) Physics, (b) Chemistry, (c) Biology, (d) Mechanics, (e) For girls—Domestic Science, (f) Maternity and child-welfare.

C—First Commerce.

(a) English (commercial), (b) Book-keeping and Accountancy, (c) Business Methods, (d) Elementary Economics, (e) Economic Products of India, (f) Commercial Geography, (g) Typewriting and Shorthand.

D—First Agriculture.

(a) Elementary Chemistry and Physics;

(b) Agricultural Botany and Zoology;

(c) Agricultural Tools and Machines;

(d) Animal Husbandry, Horticulture, Climatology, Irrigation, Drainage, Farming, Dairy, Poultry.

V. **Bachelor of Arts and Bachelor of Science.**

(for any of these Degrees one year for *pass* course and one year for *honour* course.)

A. Bachelor of Arts

Can take any of the following subjects for one year:—

(a) English Language and Literature, (b) Indian Classical Language, (c) A modern European Language, (d) An Indian Vernacular, (e) Economics, (f) Philosophy,

Indian and European, with its five branches, Ethics, Aesthetics, Logic, Metaphysics and Politics, (g) Political Science, (h) History, Ancient or Modern, Indian or English, (i) Mathematics, (j) Philology, (k) Archaeology, (l) Anthropology, (m) Social Science.*

(One year course) **B. Bachelor of Science**

Can take any of the following 7 subjects;

(a) Physics, (b) Chemistry, (c) Botany, (d) Zoology, (e) Mechanics. (f) Geology, (g) Forestry.

(Two years course) **C. Bachelor of Commerce**

It has 6 branches; (a) Commercial Correspondence, (b) Economics, (c) Economic and Commercial Geography, (d) Commercial and Industrial Laws, (e) Practical Chemistry and Physics, (f) Products and Manufactures of India.

(Two years course) **D. Bachelor of Laws**

VI. A.—Master of Arts & B.—Master of Science.

Candidates can get M.A. or M.Sc. degree on any subject in one year.

Candidates for B.A. or B.Sc. (pass course) and M.A. or M.Sc. (pass course) should get "Honour" degree, if they can pass on special papers to be set for that degree at the pass-course examinations.

*Notes.—1st.—B.A. candidate can take any other subject, if the university can undertake to examine him in that subject
2nd.—After securing B.A. degree he must write the subject after the letters B.A. thus ;—B.A. (English), B.A. (Sanskrit), B.A. (Philosophy), and so on. This distinction is necessary to differentiate his degree from the degree got on general subjects.
3rd.—For B.A. (pass) or B.A. (honour) two papers should be set to examine the candidate in the general knowledge of the English language.
4th.—B.A. student should have the option to take 2 or more subjects simultaneously for two years course.

Those who have passed B.A. (pass course) or B. Sc. (pass course) should get M.A. (pass) degree or M.Sc. (pass) degree in one year; and those who have passed B. A. (honour course) or B.Sc. (honour course) can get M.A. (honour) degree or M.Sc. (honour) degree,—provided they do not change the subjects of B.A. or B.Sc.

VII. Civil Engineering.

VIII. Mechanical and Electrical Engineering.

The years as are fixed by these colleges.

IX. Medicine and Surgery (general).

The years as are fixed by the medical colleges.

X. Systems of Medical Treatment.

More schools and colleges should be organised.

XI. Branches of Polytechnics.

More schools and colleges should be opened.

XII. Miscellaneous Subjects.

More schools should be opened according to necessity.

The different branches of the above 4 classes numbered IX, X, XI and XII are shown below:—

IX. Branches of Medicine and Surgery.

(1) Physiology, (2) Pathology, (3) Anatomy, (4) Bacteriology, (5) Pharmacology, (6) Materia Medica, (7) Mental Diseases, (8) Dermatology, and Syphilology, (9) Diseases of the Ear, Nose and Throat, (10) X-rays, (11) Electrotherapy, (12) Dentistry, (13) Surgery, (14) Biology, (15) Public Health, (16) Nursery, (17) Dietetics, (18) Veterinaries.

X. Systems of Medical Treatment.

(1) Ayurveda. (2) Homeopathy. (3) Unáni. (4) Chromopathy. (5) Hydropathy. (6) Osteopathy. (7) Biochemistry.

(8) Naturopathy. (9) Massage. (10) Sun-cure. (11) Diet-cure. (12) Mesmerism.*

XI. Branches of Polytechnics.

(1) Carpentry. (2) Tailoring. (3) Electroplating. (4) Shoemaking. (5) Book-binding. (6) Printing. (7) Composing. (8) Blacksmith's work. (9) Pottery. (10) Plumber's work. (11) Laundry. (12) Glass works. (13) Watch and clock repairing. (14) Cutlery. (15) Sign-board making. (16) Weaving. (17) Hosiery. (18) Hair-dressing. (19) Bread and biscuit making. (20) Making of lozenges. (21) Sweetmeats making. (22) Tannery. (23) Dairy. (24) Saddlery. (25) Fruit culture. (26) Horticulture. (27) Casting. (28) Wood or metal engraving. (29) Picture framing. (30) Hat-making. (31) Lithography. (32) Photography. (33) Goldsmith's work. (34) Brass-works. (35) Fishery. (36) Poultry. (37) Taxidermy. (38) Optical works. (39) Sculpture. (40) Carriage repairs. (41) Tin-smith's work. (42) Toy-making. (43) Model-making. (44) Embroidery. (45) Decorations. (46) Auto-mobiling. (47) Foundry. (48) Masonry. (49) Turning. (50) Furniture painting, polishing, varnishing; etc., etc.

XII. Miscellaneous Subjects.

1. History of Education, Principles and Methods of Teaching as are taught in Training Schools and Colleges.

* Principles of these 12 systems should be taught to some extent by means of elementary books. Notwithstanding exclusive Allopathic treatment in Government hospitals, millions of people are being cured by the above twelve systems.

2. Antiquity including Epigraphy (science of inscriptions), Numismatics (science of coins and medals), and Paleography (study of an art of deciphering ancient inscriptions and writings).

3. Music;—Science and theory; vocal and instrumental music; dancing.

- | | |
|--------------------------|------------------------|
| 4. Stage education. | 5. Military education. |
| 6. Railway service. | 7. Steamer service. |
| 8. Air service. | 9. Telegraphy. |
| 10. Telephony. | 11. Mining. |
| 12. Astronomy. | 13. Astrology, |
| 14. Phrenology. | 15. Palmistry. |
| 16. Physiognomy. | 17. Mesmerism. |
| 18. Spiritualism. | 19. Hypnotism. |
| 20. Magic. | 21. Forestry. |
| 22. Surveying. | 23. Draftsmanship. |
| 24. Metallurgy. | 25. Gramophone making. |
| 26. Cinemas and Talkies. | 27. Architecture. |
| 28. Painting. | 29. Dexterous plays. |
| 30. Machine fitting. | 31. Engine-driving. |
| 32. Broadcasting | Other professions. |

From the above classification of the subjects of study, the readers might form some idea about the utilitarian principles, on the basis of which I have classified the subjects and set approximate values to them. I hope that in future in fixing the subjects of study for schools and colleges, their comparative utility should be thoroughly investigated and weighed, leaving aside all personal bias.

Subjects of the London University

Let me give below a list of subjects taught in the London University. My object in showing the list to the readers is to give them an idea of the 118 varied subjects and the number of 216 professors who are engaged to give lectures on them in one university alone. But the total number of professors in the London University and its affiliated colleges is about 1200. We Indians should never think of introducing all these subjects in our universities. We have neither money nor students to compete with any university of England or the United States. We should make the best use of our own resources and circumstances with economy and prudence. We should try to reduce cost of teaching a paltry number of candidates far below 25 in number in one subject, by giving the home-students the privilege of passing in such subject; and to spend the saving thus made, by introducing more useful subjects of industrial nature, for the study of a good number of students who will pour in, as are now debarred from such study on account of perpetuity of old prejudices against right sort of education.

List of Subjects in the London University.

The numbers put after some subjects denote the number of professors engaged. One professor teaches each of the remaining subjects.

American History	Anatomy 9
Morbid Anatomy 2	Arabic
Applied Mathematics and Mechanics	Anthropology *

(*) Science of man in relation to physical character, distribution, the origin and classification of races, environmental and social relations, and culture.

Archaeology	Architecture
Astro-Physics ^b	Aviation
Bacteriology ^c & ^d	Bacteriology & Immunology.
Banking and Currency	Biochemistry ^e
Botany	Chemical Engineering
Chemical Technology	Chemistry
Chemistry (Hygienic)	Chinese
Classics	Commerce
Commercial & Industrial Law	Comparative Law
Constitutional Law	Dietetics
Dutch History & Institutions	Economics
Education	Egyptology ^f
Embryology ^g	Engineering
Engineering Civil	Engineering (General)
do. Electrical	do. Highway
do. Mechanical	do. Municipal
English Bibliography ^h	English Language & Literature
do. Language & Medical Literature	do. Literature
English Modern Literature	Entomology ^g
Epidemiology ^h and Vital Statistics	Ethnology ⁱ

(b) The science dealing with the physical and chemical constitution of heavenly bodies.

(c) The science which treats of the state of resisting the development of disease.

(d) The science or study of Egyptian antiquities.

(e) Biology dealing with the embryo.

(f) The history or description of books and manuscripts.

(g) Zoology that treats of insects.

(h) Knowledge of epidemic diseases.

(i) The science which treats of races and peoples, their origin, distribution, relation and peculiarities.

Eugenics ¹	Fine Art
French Language and Literature	French and Roman Philosophy
Geology	do. do. Literature
Greek	Geography
	German
Helminthology ²	Greek Byzantine History, Language & Literature
History	History Central European
History Constitutional	do. English
do. Imperial	do. International
do. Mediaeval	do. Modern
do. Modern French and Institutions	do. and Culture of British Dominions in Asia.
History of Art	Imperial Economic Relations
International Relations	Italian
Latin	Law Commercial and Industrial
Law Comparative	Law English
Law International	Logic and Scientific Method
Mathematics	Medical Protozoology ³
Medicine	Metallurgy
Meteorology	Military Studies
Mining	Music
Mycology ⁴	Obstetric Medicine

(1) The science of improving offspring, especially human.

(2) Science of intestinal worms.

(3) The science which treats of protozoa of animals in which the body consists of only a single cell.

(4) The branch of botany dealing with fungi.

Obstetric ^a and	Old Testament Studies
Gynaecology ^o	Optical Design
Optical Engineering	Pathology 6
Pathology Experimental 3	Persian
Pharmaceutics	Pharmacology
Philosophy	Philosophy of mind and Logic
Phonetics	Physics 11
Physiology 11	Plant Pathology
Plant Physiology	Political Science
Portugese Language, etc.	Psychology
Public Health	Radiology
Russian Language, etc.	Sanskrit
Social Biology	Sociology
Spanish Language, etc.	Statistics
Surgery 3	Technology of Woods and Fibres
Town Planning	Zoology

The London University has taken up some such subjects (some of which seem strange to us) for the purpose of equipping some graduates in these subjects, so that they might be employed on pay, or they can make further researches of their own accord. For example,

(a) Obstetric—relating to child birth.

(o) Science treating of diseases of women.

NOTE—This list is quoted from Whittaker's Almanac, 1931. If you compare with the lists of subjects taught in other universities of England, you will find a number of extra subjects. But the above list is sufficient to show that most of the subjects are not at all suited to the Indian students. It would be an evil day for the Indian universities, if all these subjects are included in their curricula.

Egyptology, Meteorology, Aviation, etc. give scope for further investigation.

The above list furnishes us with good grounds to discover the fact that the Indian universities have all along neglected to introduce the subject of health and hygiene in their curriculum by relegating it to the Medical Colleges, which take up 4 or 5 years time to produce doctors, forgetting that F.A. or B.A. graduates can do a good deal of public service regarding public health, if popular lessons are imparted to them on medical subjects in colleges. Thus educated they will be better than quack doctors. Therefore, I request the readers and the university authorities to mark that the London University have engaged so many teachers on various subjects relating to health and hygiene. For Anatomy (9 teachers), Morbid Anatomy (2), Bacteriology (6), Biochemistry (5), Chemistry as applied to Hygiene (1), Dietetics (1), Epidemiology and Vital Statistics (1), Medical Protozoology (1), Medicine (1), Obstetric Medicine (1), Obstetrics and Gynaecology (1), Pathology (6), Pathology Experimental (3), Pharmaceutics (1), Pharmacology (1), Physiology (11), Public Health (1), Surgery (3). The London University have recognised the importance of these subjects, whereas the Indian Universities have not;— I hope that in future new chairs will be found for some of these subjects by dropping some other less important subjects.

Moreover, all Indian students, boys and girls, should invariably be taught the evil effects and consequences of all intoxicants. The teachers should thoroughly study

temperance literature and leave off smoking and drinking for their own benefit and for setting good example to students. National progress greatly demands such practical examples. No school or college should be without useful books on the evils of intemperance.

CHAPTER VIII

IMPROVEMENTS SUGGESTED

A.—Only three things I ask of you; firstly, let us as far as possible remove racial feelings out of Education; secondly, let us not be afraid of changes and new ideas; and thirdly, let us face the future with hopes and large schemes.—Speech of Sir Harcourt Butler, Governor of U.P.

B.—“It is a healthy sign that there is a remarkable agreement among educationists today that the system of education requires drastic revision from the foundation to the flag pole.” —Professor Radhakrishnan in his Convocation Address, 17th Nov. 1934

Section I.

Education in Vernaculars.

1. “The enormous waste of time in the education of a Bengali youth is simply staggering. Six or seven years of the most precious period of a boy’s career are simply wasted in learning or picking up the intricacies of a foreign tongue through the medium of which he is made to acquire knowledge. Such a monstrous and perverse arrangement does not, I believe, obtain in any other country under the sun. Education should always be imparted through the mother-tongue of the learner—the language of his nursery. This is so evident that it scarcely needs any elaboration or justification. **We are blindly following a pernicious system, which more than anything retards the acquisition of knowledge.” —Sir P.C. Ray, in his *Life and Experiences*, p. 289.

2. "History, Geography, Geometry, Algebra, Arithmetic, Hygiene and the elementary principles of science and political economy can easily be taught through the medium of Bengali. English should be relegated to the position of a second language." — *Ibid*, p. 290

3. The Calcutta University Commission of 1917-19, in Vol. IV p. 29, recommended vernacular as a medium of education even in secondary and high schools. "The use of mother tongue in India as an instrument of mental training has long been neglected in the school system. The neglect in part is due, we believe, (though only in part), to the premature introduction of English as the chief medium.** The premature use of a foreign tongue and half-understood medium in teaching the ordinary subjects of the school curriculum tends to produce intellectual muddle, which is concealed more or less at the matriculation examination test by remarkable feats of memorisation." On page 60, I find, "It is thus beyond controversy that a more systematic effort must henceforth be made to promote the serious study of the vernaculars in secondary schools, intermediate colleges and universities."

For secondary classes, vernacular translations of primary books on the above subjects should be introduced.*

*Seventy years ago the veteran educationist Gopal Chandra Banerjee, Headmaster of the Calcutta Government Normal School, which included Bengali and English departments upto Middle Scholarship, introduced Bengali *Patiganita* (Arithmetic), *Bodhodaya* (Rudiments of knowledge), *Vastuvichara* (Object Lessons), *Pranibrittanta* (Description of Animals), *Swasthyara-*

Although, the above recommendation was made by the Commission with regard to Bengal, the education department of other Provinces should act up to the valuable suggestion made in 1919.

Section 2.

Publication of Books for Indian Students.

Every university should form a University Publication Committee for the selection, compilation and publication of books suitable for the students of that university.

A. Special Vernacular Books for Mass Education.

- (a) Three graded Primers.
- (b) Arithmetic Tables.
- (c) Arithmetic.
- (d) Copy-books for Writing.
- (e) Rules of Health and Hygiene including Evils of Intoxicants.
- (f) Lessons on Common Objects.
- (g) Properties of Common Foods and Drugs and Uses of Water in Health and Disease.
- (h) Cultivation of Cereals, Vegetables and Fruits.
- (i) Agricultural Primers
- (j) Sanitary Keeping of Cows, Goats, Buffaloes, etc.
- (k) Evil Customs and their Consequences.
- (l) Village Sanitation.
- (m) Arbitration of Disputes.

ksha (Hygiene), *Arthabyakara* (Economy), *Vijaganita* (Algebra), *Jyamiti* (Geometry), and such other useful books. But the flood of English education has swept away these useful vernacular books from the field of education.

(n) Inculcation of friendly feelings.

(o) Industrial Pursuits.

(p) Religious Toleration.

B. Vernacular graduated Readers, Books on Arithmetic, Lessons on Things, Health and Hygiene, Rules of Conduct at Home and School, Kindergarten for infants.

C. Books for Secondary Schools.

English Books for these schools are to be selected by Text Book Committees.

Vernacular Books on Arithmetic, Algebra, Geometry, Indian History, Geography, Health and Hygiene, Physical Culture, Evils of Intoxicants, Elementary Science and Nature Study, Cooking, Sewing, Needle-work, Spinning, Knitting, Maternity, and Child-rearing (for girls).

D. For Matric, F.A., F.Sc., B.A., B.Sc. classes, proper books should be selected by the Text Book Committee and the University Publication Committee. If necessary Annotated Books on several subjects, as enumerated in the Curricula and series of short Biographies of Famous Men of India and other countries should be published. If the existing books on any subject are not suited to the Indians, special books should be published.

Annotated Books on Classical Languages for Matric, F.A., B.A. and M.A. Classes should be published.

Similarly, Annotated Books and Lectures on Philosophy, Logic, Ethics, Hindu Philosophy, Economics, History, Philology, Antiquity, Politics, Social Science, Mathematics, Law, and other subjects might be published.

if there be such a demand of them by a sufficient number of home-students of those subjects.

Indian universities need not spend money in publishing books either for profit, or to suffer loss for the sake of the public, in imitation of resourceful foreign universities. However, there should be no restriction in publishing books out of the funds gifted by others. They need not go beyond their scope of properly teaching the students who are studying for degrees. They have more important works to perform in the matter of educating thousands of students. Let the publishers and booksellers do this business. If they think that the books are useful and saleable, they will publish them of their own accord,—even by paying honorariums to the authors.

Besides the books for the use of schools and colleges, there are other books which should be published by the Provincial Education Committees themselves or under their supervision. Let me give an idea of such books:—

Popular books in English and Vernaculars priced at one to four annas each on such subjects as letter-writing, dictionary, book-keeping, cooking, diet, health, hygiene, child-welfare, maternity, important statistics of India, physiology, names and description of diseases in English and vernaculars, properties of principal indigenous common drugs, 12 books on the 12 systems of medical treatment (as mentioned in Chapter VII), preventive measures from disease germs, prevention of small-pox, cholera, malaria, leprosy, syphilis, and other contagious diseases; public health, uses of water in health and disease, care of the five sense-organs and teeth, nursery, mid-

wifery, about 50 or more kinds of handicrafts, technical arts, astronomy, zoology, botany, surveying, geology, metallurgy, railways, steamers, biographies of famous men of all countries, etc., etc.

For higher class students bigger books of some selected subjects should be published and sold at -/5/- to Rs. 2/-. They might be prescribed as text books, or books for occasional reading.

Section 3.

Female Education and Mass Education

Go ye the dutiful sons of India from village to village and dispel the ignorance of the females and the masses.

It is a well-known fact that there can be no higher education without elementary education. The problem of the elementary education of the sons of rich and middle class men of India has been wellnigh solved,—for elementary schools are rapidly increasing. But there are several obstacles in the way of female education. I may mention here 5 obstacles:—(1) Poverty of the parents; (2) Early marriage; (3) *Purdah system*; (4) Apathy of the guardians; (5) Opposition of the conservative elder women against education of girls. If we do not strenuously fight against these obstacles whole-heartedly for some years, it may take a life-time to remove them. We should not remain quite satisfied with the present situation, imagining that Government will take special interest in the matter. Unless the women are educated, the progress of the nation will be hampered.

In the present state of society, it is impossible to extensively impart high education to the females. But

it is quite possible to impart elementary education to boys and girls, as well as ignorant adults of India. The problem of this kind of female education and mass education can be easily solved, if bands of young undergraduates and graduates come forward with patriotic motives, being actuated with feelings of doing good to the country, and engage themselves in teaching the boys and girls, as well as elderly people, of villages on the evils of intoxication; law-suits, evil customs, child marriage; and the benefits of the knowledge of child-welfare, maternity, first-aid, health and hygiene, by means of lectures with help of charts, magic lanterns, models, etc. These young men can be equipped for the work in 6 months by the study of physiology, health and hygiene, effects of intoxicants, etc. They can as well instruct the villagers in reading primary books. If 5 young men take charge of a village for one or two years, they can do a great deal of work. After this they can take up another village. If 100 young men offer themselves for the work, 20 villages can be uplifted to a certain extent. If some philanthropic persons support this scheme for 5 years, Government might be approached to promote the work further with money. Rich people have helped universities, colleges and schools with donations. If education centres are opened for the uplift of the females and the masses, there is every hope of getting support from the generous public. As at present or in the near future it is hopeless to get from local Government substantial grants for female education or mass education, we have no other means than doing this work of regeneration with a slow begin-

ning, and thereby gain experience for further work. Let the young educated men of India take up this unselfish work for the uplift of the masses. If once the percentage of literacy is increased, it will either remain stationary or it will gradually increase, because the literate parents will most probably not allow their children to be illiterate.

(a) "An American legislator, addressing his countrymen more than half a century ago, once said that if he had the Archangel's trumpet, the blast of which could startle the living of all nations, he would sound it in their ears and say: "Educate your children, educate all your children, educate every one of your children."Quoted from a speech of G.K. Gokhale, on the Elementary Education Bill, on 16th March 1911.

(b) "The quality of education is a matter of importance that comes only after illiteracy has been banished. Now, the primary purpose being to banish illiteracy, teachers who could teach a simple curriculum of the 3 R's. in houses hired by or voluntarily placed by owners at the disposal of school authorities, must do for the present. In Japan, when they began compulsion, they held classes in the verandahs of private houses." —*Ibid.*, Lectures on 18th March 1912.

(c) "In the United States of America, 21 per cent. of the whole population is receiving elementary education; in Canada, in Australia, in Switzerland, and in Great Britain and Ireland, the proportion ranges from 20 to 17 per cent.; in France it is slightly above 14 per cent.; in Japan it is 11 per cent. **Whereas in British India it is only 1.9 per cent. If we take the expenditure on elementary

education in different countries per head of the population, we find in the United States 16s., in Switzerland 13s. 8d., in Australia, 11s. 3d., in England and Wales 10s., in Japan 1s. 2d., in India it is barely one penny."—*Ibid*, 16-3-1911.

(d) Miss Hellen Keller, B.A. (Hon.), the world-famous deaf-and-blind lady of U.S.A., to'd the Principal of the *Calcutta Deaf and Dumb School*: "I hope your countrymen will soon be educated, which will teach them better means of earning money and thus get out of their squalid poverty."

(e) Let me quote here a few interesting lines from the Annual Report, 1932, of the Seventh-day Adventist Missions in India. During the year Rs. 7,35,611 have been spent on educational and medical projects in 26 different centres of India, Burma and Ceylon; out of which Rs. 24,022 were contributed by their friends in India, Burma and Ceylon. They are spending money for maternity, childwelfare, rural uplift, education, dairying, poultry, agriculture, industries, temperance, etc. Our rich or educated countrymen should learn a lesson from this self-sacrificing work of a single Christian Missionary Community.

World Statistics of Seventh-day Adventist Mission.

Number of:—

Countries and islands in which work is being conducted	...	...	275
Missionaries and assistants employed	...	...	20,715
Languages and dialects used by missionaries	...	...	455
Colleges, academics and lower schools	...	...	1,834
Teachers employed	...	...	4,260
Students enrolled	...	...	90,465

Sanitariums, hospitals and dispensaries	...	109
Physicians	...	648
Nurses and other employees	..	3,233
Publishing houses	...	167
Publications	...	6,607
Languages used in publications	...	157
Investment in educational institutions	Rs. 2,88,00,197	
Investment in medical projects	Rs. 2,59,01,665	
Denominational investment	Rs. 16,23,44,533	
Expenditure for uplift enterprises 1932	Rs. 1,18,60,638	

Their principle is enunciated thus:—"We human beings are possessed of many blessings that we may share with others. The relief of suffering humanity and the dispelling of the darkness of ignorance are among man's highest aims. The greatest joy of life comes through unselfish service to those in need."

They have tried to prove the importance of rural reconstruction by stating that "More than ninety per cent. of India's people are rural; yet a century of educational and economic progress has left her village life almost unchanged. Living conditions for the masses are still squalid in the extreme. No serious attempt is made to dispose of filth and refuse so as to reduce the risk of disease."

Dr. H. C. Mukerjee, M.A., Ph.D., University Inspector of Colleges of Bengal, writes on 6th December 1932, "I have held all along that our colleges are making a mistake in imparting higher education to every boy and girl who finishes study in lower schools. A majority should be content to stay permanently in the lower ranks

of life and openings for them must be either found or created. This problem it is the duty of the country to face and solve for them."

Section 4.

Propositions for National Education

Before entering on the subject of "Reforms in University Examinations" I am presenting before the readers a few suitable quotations and "Six Propositions for National Education". The object of doing so is to show that my suggestions for certain Reforms are based on these quotations and Propositions.

(1) The time is come when a system of universal education ought to be adopted in the United States. In a country governed by the sense of the community the people must be enlightened.—George Washington (b. 1732, d. 1799), President, U.S.A.

(2) If every one would see

To his own reformation;

How very easily

You might reform a nation. — *Old Rhymes.*

(3) "Utter savages, for example, the Maories of New Zealand, have passed in a single generation from barbarism to civilisation. The average individual amongst us may be trained to fill the roll of a beggar or a king, a scientist or a monk, a thief or a legislator. He is able to dwell in the Tropics or in the Arctic, in the town or in the wild. Memory, knowledge, intelligence, adaptability, are all links in a single chain of efficiency. Memory is of two sorts, conscious and unconscious. The conscious

memory contains experiences which can be recollected, such as the words of a language or the sights we have seen. The unconscious memory contains impressions which cannot be recalled to mind, but which are none the less important. Thus we learn to use our limbs, a process which involves a precise but quite unconscious adjustment of the actions of numerous nerves and muscles.** So, also, in youth we unconsciously imitate our fellows, adopting in great measure their mental tones and attitudes without knowing how or when we are influenced.”—Dr. Archdall Reid. —From this quotation we can easily deduce that we can dispel the ignorance of the masses, who are half-civilised, in less time than one generation, and turn them into efficient citizens; and by our moral and self-sacrificing examples we can reform their mind.

“My Lord, with 94 per cent. of our countrymen sunk in ignorance, how can the advantages of education or thrift be properly appreciated, and how can the industrial efficiency of the worker be improved? With 94 per cent. of the people unable to read or write, how can the evils of superstition be effectively combated, and how can the general level of life in the country be raised? My Lord, His Majesty the King Emperor, in delivering his message of hope to the people of this country before he left Calcutta, was pleased to say, “And it is my wish too that the homes of my Indian subjects may be brightened and their labour sweetened by the spread of knowledge with what follows in its train—a higher level of thought, of comfort, and of health.”—Lecture of G.K. Gokhale on the “Elementary Education Bill” on 18-3-1912.

Six Propositions

1st.—Every man or woman, young or old, rich or poor, married or unmarried, blind or deaf, crippled in body or mentally weak, should be educated, according to his or her capacity or necessity, position or profession, and conditions or circumstances.

2nd.—It is the duty of Government and the leaders of the people to give all sorts of facilities and freedom in their power, to all members of a nation for acquiring knowledge on different subjects by reading books or hearing lectures. If this duty is neglected, the progress and prosperity of the nation will be hampered.

3rd.—If requisite funds are available, schools and colleges, and when possible examining or teaching universities, should be increased for teaching different subjects according to the needs of the time.

4th.—A Provincial Education Board with its District Branches should be established in each Province and its Districts for carrying out educational schemes and reforms.

5th.—Whenever or wherever there is no convenience for opening new schools in villages, primary education by means of books or oral lectures should be imparted to villagers on useful topics regarding hygiene, diet, intoxicants, indigenous medicines, evil or ruinous customs, waste of money and energy in law suits and quarrels, village reconstruction, agriculture, cow-keeping and breeding, technical arts, etc.

6th.—Students should regularly attend schools upto Matric Examination, because without such attendance, they cannot easily attain the requisite efficiency for

self-education in studying higher courses. For the girls, this rule should be relaxed. Those who take up science courses in F.Sc., B.Sc., M.Sc., Engineering, Medicine, Mechanics, Electricity, Mining, Agriculture and similar experimental sciences or technical courses, shall have to attend colleges for gaining knowledge by experiments. In this case, there can be no special exemption for girls.

It should be first decided whether the above propositions are right or wrong, feasible or impracticable, by the exercise of reason and common sense. If the propositions are admitted as right and practicable, the ways and means to carry them out can be easily settled without much difficulty.

Section 5.

Reforms in Text Books and Examinations.

First.—*Cramming*. There is a large volume of evidence before the Calcutta University Commission of 1917-19, which is against the *cramming system* of Indian schools. By this system the teachers and students endeavour to qualify for an examination, in a comparatively short time, by storing the memory with only such knowledge as is likely to serve the occasion. There are instances to show that examinees pass their examinations by committing to memory the whole of a text book. This is surely a hindrance to the development of intellect. This general complaint should be removed by taking such proper steps according to the advice of proposed Education Committees of different Provinces. The students should be made to understand thoroughly their text-books

(a) "As cramming is learning a thing without understanding it, the faculty of memorising is often developed to an extraordinary degree at the expense of intelligence. **This reflects badly also on the teaching as well as the examining capacities of the authorities."—Dr. Harish Chandra's "*A Revelation in Education*".

(b) "Multifarious reading," said Robertson of Brighton, "weakens the mind like smoking; and is an excuse for lying dormant. It is the idlest of all idleness, and leaves more of inpotency than any other." —*Self Help*.

(c) "Every person has two educations, one which he receives from others, and the other, more important, which he gives to himself."—Gibbon, the historian.

(d) The best part of every man's education," said Sir Walter Scott, "is that which he gives to himself."
—*Self Help*, p. 369.

(e) "The education received at school or college is but a beginning, and is valuable mainly in as much as it trains the mind and habituates it to continuous application and study."
—*Self Help*, p. 369

(f) The constant streaming in of the thoughts of others must confine and suppress our own; and indeed in the long run paralyse the power of thought.—Schopenhaur (b. 1788, d. 1860), a philosopher. (*Story of Philosophy*, p. 361).

Second.—*Text Books.*

(a) Too many or too big text-books should not be prescribed in the high schools.

(b) In the selection of the subjects of study, the authorities in charge of education should read and consider

the curriculum of the schools of the rising nations of the world;—such as England, Germany, Italy, U.S.A., and Japan; and then fix the subjects according to the present conditions and circumstances prevailing in India.

(c) Persons in charge of education should always make distinction between *useful* subjects and *ornamental* subjects in prescribing text-books. The study of *useful* subjects will equip the young students to earn their livelihood and fight the battle of life. Only a few students can derive benefit by the study of *ornamental* subjects.

(d) Text-books on English language and Vernacular language for Matric classes and F.A. classes should be selections of prose and poetry from well-known authors. Any book written by a single man should not be selected as a text book, such as, *Ivanhoe*, *Self Help*, *Book of Golden Deeds*, etc., because students should learn the styles of *different* authors of the 18th, 19th and 20th centuries. I have nothing to suggest with regard to the text-books on other subjects for these classes.

(e) In order to discourage the cramming system and the examinees from committing to memory the printed note-books or keys of the text-books on the English language, questions should be framed in such a manner, that the examinees, who have committed to memory the notes without understanding the text, could not write the answers only from memory. Their knowledge of the English language upto Matric or First Arts standard should be tested by suitable questions. The class teachers should also teach the students in an intelligent manner. These are the two safeguards against cramming.

(f) Text-books for secondary classes should be so judiciously selected that the pupils can pass Matric examination in 8 years, instead of 10 years. They should be smaller, containing only most important things. This step should be taken, if necessary, specially for such students, who wish to be admitted in lower technical schools and whose parents cannot teach upto Matric class. An examination lower than Matric might be held for their convenience; and certificates might be issued to them accordingly.

Section 6.

Reforms in University Examinations.

(1) The educational authorities should give permission to all persons, who acquire knowledge on any subject or subjects, either by attending Arts Colleges or by home-education, to appear at the F.A., B.A., M.A., B.L. Examinations by payment of regular examination fees and to get degrees on passing these examinations. There should be no restrictions of (a) age, (b) sex, (c) attendance of lectures, (d) fixed periods between two consecutive degrees, etc. For example if a student can pass M. A. or B. L. examinations simultaneously, let him do so.

(a) Age limit is objectionable. Sixteen years age limit for Matric examination has blighted the prospects of some bright students for some years.

(b) A married or unmarried girl, or a young or grown-up widow, or a woman who has children, or a respectable Hindu or Mahomedan woman or a *pardá-nashín* lady who is unable to stay outside her family-circle for

attending any High School or College or University, but who can study at home upto Matric or higher standard, should be allowed to appear at examinations and get degrees on her paying the usual fees.

(c) Any boy or girl, or any adult man or woman, might be unable to attend a school or college, on account of blindness or deafness, or any bodily or mental defect, or narrow circumstances or any other reason. But, if he or she can acquire knowledge upto Matric or higher standard by home-education, he or she should be allowed to appear at Matric or higher examinations and to get university degrees.

(d) If an intelligent student can pass B.A., M.A. and B.L. in three years, there is no reason for detaining him or her for one year more.

(2) Colleges under Universities of India should make provisions for imparting education on *useful* subjects, which are generally taken up by the majority of B.A., or M.A. students. They need not open classes for less important subjects, which very few students take up, or which can be learned at home with the help of text-books or recommended books or printed lectures on those subjects or selected books. But if at least 30 or 40 students apply for the study of any of those subjects in a college or university, it should open a class on that subject. Notwithstanding the opening of a class for a subject, outside students should be allowed to study the subject at home, appear at the examinations and get degrees.

(3) Universities should publish lectures on the subjects of B.A. and M.A. courses for the students who can

not attend college or university lectures for various causes,—who are unable to meet college or hostel expenses or who might earn something for the support of their family and at the same time devote their leisure hours for 3 or 4 years with the object of getting a degree. The universities should not put obstacles in their honest and earnest efforts. Written and printed lectures systematically edited by two or more expert professors are generally better than oral lectures. I think that no one entertains any doubt about the superiority of this method. Majority of pupils will appreciate it. If any doubt lurks in any one's mind as to the efficacy of printed lectures, he can collect votes of 100 B.A.'s and 100 M.A.'s and compare percentages of "for" and "against". In this matter, the evidence of teaching professors will be cautiously counted, because they are interested parties. Guardians of middle classes will give greatest percentage of votes for this innovation. Throughout the civilised countries a large number of foreign students study some courses and pass the final examinations by home study. Let the Indian universities boldly take this step for at least six years and see the result; and then decide the matter finally. This process will save an enormous sum of money spent on account of a costly education system; and thousands of guardians and students will bless the universities for their taking up this judicious step and thus save the money of the guardians, who can ill afford to pay it. It is surely a cheap, yet at the same time, a wise method of teaching of graduates by printed lectures. Some students might not attend some

lectures on account of illness or some other causes;—for him printed lectures are best helpers. Thoughtfully written elaborate printed lectures are generally expected to be better than oral lectures or notes, in which some points may be missed.

(4) An English-knowing person can learn any modern language of Europe to some extent in about six months by the study of ably edited books of that language. Let the universities give a free scope to the M.A. students to show their parts without the help of coaching. There are several B.A.'s and M.A.'s, who secured degrees by home-study. One of my young friends is a triple M.A. in Sanskrit, Hindi and History,—he got two of these degrees by home-study. An M.A. in English can get the degree of M.A. in History or Economics by home-study in one year. There is no cause for a supposition that a graduate cannot pass M.A. in one year instead of two years. It is quite possible that M.A. students of any subject do require explanations or elucidations on some intricate or difficult points. The best way to solve their difficulties is to publish their questions and explanatory answers of some experts on the subject. The students of successive years will derive the benefit from these publications. As some of these courses are unchangeable, for example, Sanskrit, Arabic, Persian, Páli, History, Philosophy (ancient), Mathematics; the lectures, annotations or answers, which are published or will be published, will ever be useful in future. In this enlightened age of dissemination of knowledge, there have been already published annotations and elucidations of

difficult points of a subject. When such is the case there is not the slightest ground or justification for spending vast amounts of educational grants on coaching M.A. students, which can be utilised for more useful educational purposes. I admit that it requires a high, liberal and strong mind to change an old groove of ideas. One or two strokes of a hammer can bend a red-hot iron, but it would require a constant hammering to make a cold iron hot and then bend it. An enthusiastic mind of a reformatory character will bend it to some extent by one stroke of argument, and the second stroke of experimentation will bend the mind to the required curvature. If my proposal is sound, it should be tested by an experiment of at least 6 years.

(5) Let me raise my feeble voice against one rule of the Calcutta University, by which it has usurped the sole power to open M.A. classes in its own buildings. Why has this power been snatched away from the colleges of Bengal? By this rule, M.A. students from different parts of Bengal are compelled to leave their homes and to pay high hostel charges of Calcutta. This rule, in a way, declares that the colleges of Bengal are incompetent to engage competent professors for M.A. classes. It is a wrong presumption that the big and respectable colleges of Calcutta, each having several hundred students on their rolls, are unable to engage able professors for M.A. classes; and that the University alone has an exceptional capacity to run M.A. classes in their own buildings. This rule of curbing the liberty of the colleges lowers their prestige. The university can by all means retain for

itself the power of ascertaining whether the professors to be engaged can teach properly or not. There is no speciality in the university buildings that M.A. classes should be located within their boundaries. It is also a true apprehension that private colleges make profit by levying higher fees and by paying lower salaries. Let their Trustees make reasonable profit, by the accumulation of which they can expand their colleges in future; erect their own buildings, and keep a reserve fund for emergencies or for reducing the fees of pupils, giving scholarships to deserving students or allowing more free students. One general safeguard for the preservation of an Educational Trust Property is the passing of an Act by Government by which such property might not be lost or squandered away by selfish or foolish Trustees. A Representative of the university should be appointed to watch over the proceedings of such Trusts and submit complaints to Government for enquiries and necessary action.

(6) There may be a mystery in taking away the long enjoyed privilege of the colleges of Bengal in opening or teaching M.A. Classes. By this means the University has created a vested interest of highly paid professors. Although it is an admitted fact that too small a pay will not attract highly qualified professors, I do not see any reason for paying double the usual salary, when competent professors can be secured at half the salary. This can be easily tested by a committee of experts by watching the modes of teaching of these professors.

There is a prevalent notion that highly paid teachers or high degree-holders can teach best. But the fact is

that he can teach well, who knows the proper method of teaching and who has gained experience in the art. This observation of mine can be easily tested by a competitive examination of some university students studying some subject, such as, History or Sanskrit, under tutors getting high pay and of the same number of students studying the same subject in a college under tutors getting half or one-third pay. Generally more intelligent and painstaking students surpass dull and lazy students.

“It is the vested interests of an influential body of men at the University (of Calcutta) that have hitherto blocked the path of reform and the university lecturers, and the teaching staff have also a vague apprehension that reformers on the lines indicated may throw them out of employment.”—Mr. J. Chaudhri, M.A.

. There are living examples of highly qualified M.A.'s who came out from Indian colleges, before the opening of University M.A. classes. I think they can compete with the present M.A.'s.

(7) Facilities should be given to Law students to get their degrees either by college attendance or by home-education. Lectures on different branches of Law should be published for their study. Printed comments are more useful than oral lectures, because they can be read, re-read and thought over at home. The difficulties of the students together with their solutions, as well as, the Law examination questions with their explanatory answers should be published. These publications will greatly help both the home-students and college-

students. The ability of examinees to orally plead law-cases should be tested. If this rule is enforced, the candidates shall have to pay higher examination fees. They should be asked to draw up *plaints* by presenting before them certain facts of civil or criminal cases, and also to write *written statements* against *plaints*. They should also be required to criticise faulty judgments by making references to law-books and law-cases. They should learn to draw Deeds and Documents. Most of the remarks made with regard to M.A. examination are applicable to Law examination. There should be no restriction of three years' course. Whether it is desirable to make compulsory the rule of attendance to Law classes for 3 years can be decided by the majority of votes of Law graduates. They are the proper persons to vote, because they know whether the Law lectures materially helped them or not. They also know if they willingly attended the lectures attentively, or whether they were compelled by rule to attend lectures. If 500 votes are taken, and the majority vote for compulsory attendance to Law classes for one, two or three years, the present rule need not be changed. In this case also the evidence of the professors of Law will not be of much importance, because their self-interest is intermingled with it. When the examinees after passing the final examination will practise in Courts as pleaders, they shall have mostly to draw *Plaints*, write *Written Statements*, plead and criticise judgments in appeal cases. So the examinees should be tested in these works. I think that 75 per cent. or more of Indian law-suits do not require minute study of higher

or more unusual branches of Law, but require practical methods of conducting ordinary cases. Therefore the examinees should be well-versed in these ordinary things. Of course, they should have general knowledge of the higher branches to conduct special cases. For helping the home-students or college-students of Law, universities should publish some uncorrected exercises of students together with corrections made by professors of law colleges. Home-students should be allowed to have the advantages of Law Library on payment of charges.

If we make an investigation into the causes of success in life of some of the eminent lawyers of India, we shall find that their good memory, innate faculty, strong desire for development, and whole-hearted application of their knowledge and intelligence have made them successful in life. They took the opportunities by the forelock and made the best use of their time and energies by concentrated efforts. All the Law graduates heard Law-lectures, but only a small per cent. of them rose to eminence as renowned advocates or judges; for example, Dwarkanath Mitter, Ramesh Chandra Mitter, Asutosh Mukerjee, Gurudas Banerjee, C. R. Das, Lord Sinha, Sir N.N. Sarkar, Sir Tej Bahadur Sapru, Rash Bihary Ghosh, T. Palit, Moti Lal Nehru, Ali Imam, Lajpat Rai, Pandit Madan Mohan Malavya, Sundar Lal, Justice Sir Shadi Lal, B. L. Mitter, Amir Ali, and others.

(5) In some universities there is a rule that only a teacher in a school or college is allowed to appear at F.A., B.A. or M.A. examination and get a degree. I tried my utmost to find out the logic of this arbitrary rule, but

failed in my effort. Suppose a private student gets by chance a post of a teacher in a school to teach geography, history or vernacular, and studies for B.A. or M.A. degree in economics, philosophy or commerce, he is allowed to pass B.A. or M.A. examination, because he is in the education line. If on account of bad luck he could not get any service in school, but by chance gets an apprenticeship or service in an office, he is not allowed to pass B.A. or M.A. Can the university explain how his teaching vernacular to children for 2 years or 4 years can help him or qualify him to get B.A. or M.A. degree in philosophy, which has no connection with the vernacular? There is no use of further elucidation of the absurdity of this curious rule. The sooner it is obliterated from the university code, the better. No university should ever attempt to blast the future career of brilliant and industrious students simply because their poor circumstances do not allow them to pay for college education. By a little thinking one can easily understand that in the case of some aspirants for degrees, the daily drudgery of a schoolmaster might be botheration instead of help in prosecuting their studies. The universities should have pity on these candidates who cannot afford to pay college expenses, and should change the present rule.

Section 7.

Objections against Degrees by Home-education

(1) One common objection made by some persons against the getting of degrees by home-students is that this innovation will increase the number of degree-holders enormously. This change will make it more difficult for

the graduates to secure services. I think this apprehension is groundless, because at present say 20 per cent. of graduates are getting suitable employments; if the number of graduates is doubled, the percentage of graduates getting employment will be ten per cent., but their actual number will be the same. When the public, especially guardians, will gain the sad experience that too many graduates are roaming about without employment, they will become more and more cautious in spending their good money for unprofitable college or university education. Then, they will clamour for vocational or technical education for their boys, and will induce the universities to improve or change their present defective policy. Thus out of evil good will come.

(2) If you once admit the important principle that for the uplift of a nation, all persons should be freely and liberally educated in accordance with their capacity and circumstances, you cannot and should not go against that principle settled once for all. The only fear and danger in broadcasting high education are that the students who will get degrees by mere study of books without sufficient moral culture will not only be a burden to society on account of unemployment, but some of them might do mischief to communities in gaining their selfish ends. The remedy for this evil is diverting the university grants to technical and industrial colleges.

(3) Some persons think that if university confers degrees to home-educated students, there will be too many degree-holders and thereby the value of degrees will be lowered. This idea is a mere supposition. Acquired

knowledge has intrinsic value, which does not increase or decrease with the number of the possessors of knowledge. If there is no application of knowledge for any useful purpose, the society cannot derive any benefit from the knowledge. The education authorities are generally fond of imparting bookish knowledge and think that they have done enough. Now it is high time, to devise means by which that knowledge can be properly applied in practical affairs.

During the Moghal period the number of coins were fewer in comparison with the number of coins and currency notes now issued. The comparative value of a present rupee is several times less than that of a Moghal rupee; but I cannot say whether their intrinsic values have changed or not. But we see that in the present time the convenience of the people in using larger number of coins and notes has increased. Similarly, if the number of graduates increase ten-fold in 10 years, their value in the public eye might be lowered, but their intrinsic value will not decrease. They will be like living stock or capital. If able and clever guides or leaders or reformers be forthcoming, they can make a proper use of this capital of ten-fold graduates for effecting an uplift of the nation by transforming the latent powers of the graduates into kinetic power.

(4) Another objection against home-education is generally raised by those who have received higher education in Indian or foreign colleges or universities. They say that home-education is somewhat defective as compared to university education. Even admitting their version

as true, let me say that this defect will not affect general or all-round education. This defect might well be compared to printing or grammatical mistakes inadvertently made in a good book. Let us suppose some hypothetical conditions, consider them and then pass our judgement in the matter:—Home students might not understand some passages of text-books properly; or they could not hear further elucidations and explanations of some passages made by the professors; or they have not attentively read or omitted to read the ancient histories of certain countries; or they have not studied the writings of some famous authors; or have not solved some higher problems of mathematics; or did not learn the anthropologies of some countries; or neglected to learn some archaeological researches; or they have not read the works of some Western philosophers, but attentively studied Eastern philosophy;—such defects cannot be an obstacle to their onward progress or general knowledge of those students.

(5) Some holders of English university degrees think of introducing unitary residential universities in India. Their proposal is good, but its disposal is difficult on account of the want of money of the guardians. They also suggest that there is no need of the present system of holding M.A. examination, but if the professors are satisfied with the works of the B.A. or B.Sc. students, they can be conferred M.A. or M.Sc. degrees as in England. I think there is no objection to this change, provided that the proposed rule applies to home-students as well.

Section 8.

Some Points Considered

1. Plea of "Culture"

If some one raises an objection to the introduction of such subjects in M.A. classes as Philology, Philosophy, Architecture, Archaeology *Páli*, *Prákrit*, Anthropology, the reply of the senators is likely to be that they were introduced for cultural education. If you ask the students, most of them will say that they have taken up these subjects simply to get degrees. I do not see any special reason in giving preference to these subjects, instead of selecting such subjects, the study of which will aid the culture of intellect as well as instinct for pursuing any lucrative trade or manufacture. Close application of the mind to any subject relating to arts, sciences or manufactures will as well unfold and develop the inner faculties. There are niceties and subtleties in almost all technical subjects, such as, agriculture, sericulture horticulture, pisciculture; manufacture of cycles, clocks, steam or oil engines, electric fans, motors, etc. The meaning of the word *Culture* according to *Webster* is the act of training, disciplining or refining the moral and intellectual nature of man. Hence the application of mind to the technicalities of any technical subject will be helpful to mental culture.

2. Calculation of Profit and Loss

In the present days of utilitarian principles, the universities should follow the common rule of the traders and manufacturers in calculating profit and loss before starting a business and throughout its continuance.

If the senators or syndics heartily think themselves as trustees or custodians of the physical and mental faculties of thousands of students, they will conscientiously discharge their responsible duties to the students. The University Commission did find fault with private schools and colleges for showing their stinginess in paying small and inadequate salaries to the teachers, without thanking them for educating thousands of students in the last 50 years, after taking some grants from Government; but empowered and emboldened by the recommendations of the Commission, the Calcutta University did show their extravagance in continuing highly-paid superfluous professors for teaching unnecessary subjects. If stinginess is considered as a defect, extravagance should also be considered as a defect. Only judicious expenditure is the praiseworthy course.

In the year 1931-1932 there were 239 professors and other teachers in the Calcutta University (see *Modern Review*, Oct. 1934). Leaving aside about 50 professors of law, 239 professors or other teachers should be considered too many. There were not 2,390 students (law students excepted) for 239 professors,—each professor taking charge of 10 students in average. Let me make extracts from the writings of Sir Jadu Nath Sarkar, the well-known writer of some Indian histories. This well-known Professor has disclosed some of the astounding facts regarding the Calcutta University's wasteful methods in the post-graduate department in the *Modern Review* for July 1925.

"In English, each teacher delivers on an average 6½ lectures a week (against 18 lectures by the staff at Dacca);

in History only 5 lectures (against 12 at Dacca); in Economics $7\frac{1}{2}$, in Philosophy $4\frac{1}{2}$, in Anthropology only $3\frac{1}{2}$ lectures in the entire week."

"In History there are 32 paid lecturers for 171 students, in Philosophy 17 lecturers for 65 students, in Experimental Psychology 10 teachers for ten pupils. The climax is reached in Comparative Philology in which there are *three* lecturers on a pay of Rs. 1,100 for *two* students, and in Páli *fourteen* lecturers for *eight* pupils !!! And the Bengali tax-payer must find money year after year to maintain this state of things, while unemployment is increasing in the land, and the wages of our graduates are getting lower and lower."

If the above objectionable state of things has continued at the Calcutta University and if a thorough overhauling and reformation were not made upto this time, it is surely a deplorable thing. The Professor, who was a Vice-Chancellor of the University for sometime, ended his article with the following sentence :—

"It is for the Bengal legislators to decide whether their sons should continue to work under the blight of such a system, or national decay should be arrested by a determined reform of the Calcutta University."^a

I could not dream that such a deplorable state of things could exist in the premier university which is managed by 40 or 50 chosen men of learning. If, in a judicial case, one Hon'ble Judge of the High Court

^aAs the University does not publish public reports of its annual income and expenditure, and other necessary particulars, the public cannot criticise their actions.

makes a mistake, the party can appeal before 2 or 3 Judges; or, if they also commit an error of judgement, the Privy Council is open for further appeal. But in the case of openly published defects or errors of universities, we have no Law or Court to appeal to.

Evidence of the professors of the universities in favour of the utility of such subjects as ancient history, mental philosophy, anthropology, ethnology, classic languages, etc., has little value, because naturally they might not speak against the subjects which fetch them high salaries. They know well that if they support the abolition of those subjects, they will cut off the very branches on which they are sitting.

3. Patriotic and Self-sacrificing Spirit.

Patriotism and spirit of self-sacrifice are seldom taught in the schools and colleges of India. Unless the seeds of these sterling qualities are implanted in the young hearts, mere acquisition of knowledge will not elevate the mind of the students. It is sure that until the noble feelings of the heart are cultivated by the students, they cannot do real good to the country. The teachers who have not nurtured these feelings cannot implant them in the heart of the students by mere advice.

4. Moral and Catholic Principles in Education.

Although the first one-third part of the 20th century has shown a marvellous development in arts and sciences, discoveries and inventions, yet the Great War and the preparations for future greater wars, as well as the

troubles of unemployment and unrest, and depression of commerce and manufactures are the effects of want of morality and fellow-feeling amongst nations. Want of sympathy, or sometimes existence of animosity between different races and religionists, is one of the root causes of the miseries of the Indian people. If the British nation cultivates a sense of righteousness and treats the Indian people as younger brothers, and if Indians have sense enough to behave with the governing race as if they were our elder brothers, and the Hindus and the Mahomedans jointly work for the common welfare of India; and the two great nations fuse themselves together as one nation,—such fused nation might become the mightiest nation on the face of the earth. Let us forget the distinctions of race, creed and colour, and jointly work for at least 25 years for the uplift of India. The above lines are written to broaden the ideas of young students, and to expand the outlook of the teachers also. The education for the students and the public should be based on these moral and utilitarian principles.

For the purification and elevation of the national ideal, for the union and fusion of different castes and religious sects of India, for generating sympathy and fellow-feeling amongst the people, for showing the evils of immoral social customs, for proving from the teachings of the Founders of different religions, that the essence of the principal religions is the same and that the present followers of them have gone astray from the truth inculcated by the Founders; each of the 18 universities of India should engage one or two teachers for teaching all the students the moral code affecting the

individual and social morality and showing from history that morality is the basis of national prosperity.

5. Compulsory Education in big Cities.

In the presidency towns and other big cities of India compulsory education of boys, from 5 to 15 years of age, should be gradually introduced. Municipalities should take up this useful and benevolent work in teaching poor children and thus improve the status and worth of the cities. After introducing compulsory education for boys, all girls should be educated in girls' schools. Educated children of a city should be considered as assets of the city. If a Municipality implant seeds of education in the children, those seeds will surely bear sweet fruits in course of 10 or 15 years, and the citizens will enjoy the fruits. If the citizens neglect to discharge their duty in this respect, they shall have to suffer on account of the wild and unhealthy fruits injurious to society, which the neglected children will bear in their youth and also in their manhood. The Calcutta Municipality has opened 230 free primary schools for poor boys and girls. Some of the different Wards of the city are trying to introduce compulsory education in those Wards. Every citizen should think that the amount spent for this purpose is well spent. Children should be educated according to their age, capacity, family-income and profession, and other circumstances, in primary or secondary schools, professional schools for artisans, or technical schools. Unless this reformative step is taken, neglected children will become idlers, thieves,

pick-pockets, smokers and drunkards, vagabonds and immoral wretches. I think the above lines are sufficient to awaken the sense of responsibility of the city-fathers to properly educate the city children.

6. Education for all Classes.

Let me divide men into three classes who require education. Of the three classes alluded to above, the 1st class includes persons who were *yogis* or devotees, or who had highly cultivated their intellect and heart in their previous births. From their childhood they show extraordinary intellectual or moral power. If they get a little facility in acquiring some literary knowledge or in learning arts and sciences, they exhibit highest mental faculties. Schools or colleges cannot produce such geniuses or prodigies. They are the products of the culture of former births. Gifted spirits, such as, reformers, philanthropists, born poets, or philosophers, etc. come under this class. Let me give a few examples of such prodigies.

"Dante, the immortal Italian, was the author of a story in 7 languages when he was only 10 years of age. Pascal, the mathematician, wrote a book on sound in his 10th year; when he was only 15 he finished his famous Conic Sections, which was later on hailed as a classical work. Ennius Visconti, before he was only five, knew Hebrew, Greek and Latin and within his 10th year he perfectly mastered Syriac, Arabic and the language of the Caldeans. Haller, when he was a baby of four actually preached sermons. John Stuart Mill, whom his father so tutored at home that at his 10th year, he learned Latin, Greek and histories

of England, Spain and Rome. Even in the present time we see accounts of wonderful feats of child musicians, mathematicians, poets, artists, etc. in newspapers. This is a conclusive proof of transmigration of souls. The society should give them every facility for reviving old knowledge and acquiring fresh knowledge. They need not be compelled to undergo college drudgery. They should be helped with books for home-study according to their taste and with scientific instruments they want. For example, if Galileo be reborn now, he should be supplied with astronomical books and big telescopes, so that his time and energy might not be wasted in constructing ordinary telescopes which he constructed in his former life. If possible he should be given access to principal Observatories.

The 2nd class includes persons whose mental faculties remain dormant in boyhood, but they are unfolded as they advance in years. This has been observed in the lives of several great men of the world. Some trees bear fruit late. They should not be rejected as worthless when they are young, but they should be educated as far as possible according to their tendencies. When they will attain manhood, their talents will manifest themselves. No nice distinctions can be drawn between persons of 1st and 2nd classes. The following persons fall within these two classes. They never received any instruction in colleges, yet they were brilliant and famous men of the world, such as, Kalidas, Hafiz, Homer, Confucius, Shakespeare, Milton, George Stephenson, Thomas Edison, Howard, Miss Helen Keller (the world-famous deaf-and-blind lady graduate of U.S.A.).

Under the 3rd class come persons, whose worldly circumstances are unfavourable for prosecuting their studies in schools or colleges, or who are suffering from bodily or mental defects, for example, who are deaf, blind, crippled, tuberculous, delinquents, or weak-brained. The society should help them as far as possible in acquiring knowledge, or in learning manual or artistic works. Even the educated persons, who have no idea how the blind and the deaf are instructed with great difficulty, cannot dream how a blind and deaf girl Miss Hellen Keller of U.S.A. could be educated upto B.A. degree and how she learnt 5 languages. It took several months to teach her only a few words. But her indefatigable home-teacher constantly attended to her for about 20 years. A blind Bengali passed double M.A. and is a professor in the Bangabasi College at Calcutta. There are several blind graduates in the world. Now deaf-and-blind boys are passing university examinations. Every member of community should be kept engaged in some useful or remunerative work, so that he might not be a burden to it. The community which neglects this duty shall have to bear the burden of these men, who should be kept aloof from idleness,—‘the devil’s workshop.’

7. (A) Unused Knowledge and (B) Utilitarian Principle

(A) Knowledge is like treasure. If treasure is locked up in an iron chest and is not spent by the possessor for his own purpose or for the good of the society, it can be fitly compared to the wealth of a miser. But if the wealth be inherited by a benevolent person, he can spend it for the

good of others. Similarly, if the knowledge gained in universities be utilized, there can be no complaint against its acquirement by incurring certain expenses. But if the majority of the persons who gather it, do not make any use of it, but gradually forget it as they become old, it is lost on their death,—nothing being left to be inherited by their sons or daughters for making use of it. If the above argument is right, it follows that, except those whose sole object in acquiring knowledge of certain subjects is culture of the mind, those who spend money, time and energy for stuffing their brain simply for the sake of getting degrees which are useful in earning their livelihood, should be given facility by the universities to learn such subjects the knowledge of which would directly help them in earning their livelihood, and at the same time, in improving their intellectual faculty. We know well, that only a small minority of graduates spend their time in pursuing the study of the subjects they learned in the universities for passing the examinations. If the university does not choose the proper subjects of study, it is the fault or neglect of the university which helps in the wearing out of the brain of the students by the study of unprofitable subjects.

(B) The motto of utilitarianism is, "Greatest good to the greatest number". It is undoubtedly a sound principle deducted from the experience of ages. Had the Moghal Emperors reigned on this principle, and, instead of persecuting the people, had they educated them, today we could count 25 per cent. of literates in India, instead of 5 per cent. Their memoirs are filled with exploits of war and deeds of pomp and pride; but they seldom cared to

educate the people. Had Shah Jahan spent 9 crores of Rupees—which is equivalent to 36 crores according to the present currency—in educating the people instead of erecting the Taj, he would have raised the country to a position of rare glory and fame. Let, however, the past bury its dead! May we not expect an improved system of education from the Education Departments and Universities of India? The present system may be expressed by the words, "Least good to the least number!" This is an anti-utilitarian principle. If any one raises an objection to this expression, I would request him to prove by facts and figures, that they are trying to educate the people properly. Instead of decorating an infinitesimal number of students with the trinkets of academic degrees, let us work among the masses, educate them in the rules of health and hygiene and technical arts and guide them to do work with application and industry.

8. Forms of Administration.

There are three principal forms of government,—monarchy, aristocracy and democracy. When monarchs become autocrats, anarchy is the result. As exceptionally few monarchs possess all the noble qualifications necessary for a good government, people of some countries have established parliaments. The British Parliament consists of two houses,—the upper house contains the representatives of the aristocracy, and the lower one, representatives of democracy. Aristocratic democracy is a nice system. In India the Government has given us two kinds of legislative bodies only for passing

resolutions; but unlike England, has reserved to itself the right of granting or rejecting them. University administration is generally carried on by the syndicate and senate,—upper and lower bodies constituted by themselves under the sanction of Government. As they are not accountable to the public, they are not bound to publish their accounts. But this policy is not sound. As the Universities spend public money, they should annually publish financial statements and other necessary items in the Government Gazettes, so that the intelligent public and those who take interest in educational matters, such as teachers and professors, can discuss the reports in the papers, or submit their suggestions, individually or collectively to the Universities or Government. The present system is generally all right, if the members of the bodies act disinterestedly and without prejudice, simply for the good of the student community only. As these bodies are like educational guardians, it would not be derogatory to their dignity, but it would be rather desirable, if they consult with the graduates and their home-guardians, if they are graduates or men of culture and reputation, whether it is advisable to continue, introduce, or discontinue any subject of study. According to the wise saying of *Chánakya* in Sanskrit, when the boy becomes 16 years of age he should be treated as a friend;—graduates are generally more than 16 years of age. It cannot be ignored that their views have certain weight and value in this matter of selection,—and their guardians are interested parties in this matter. After a year or two, or immediately,

these graduates might be appointed as professors of colleges or might be selected as members of these bodies. So it seems proper and judicious to gather the views of the representatives of the (1) graduates of colleges, (2) professors of colleges and (3) qualified home-guardians, in selecting (a) subjects of study and (b) in opening technical and industrial schools and colleges by discontinuing certain subjects, which are not remunerative, or do not attract a sufficient number of pupils. It is neither necessary nor obligatory that the opinion thus gathered must be accepted at all, but it will certainly help the bodies in settling the value or utility of the subjects. This kind of procedure does not at all mean that such votes will affect or interfere with the internal management of the university. If a dozen students do not come forward from a Province to study a subject, it is a conclusive evidence that the pupils and their guardians do not appreciate the subject. If such be the case, why should the university spend their funds for the subject? The students and their guardians know their own interests well in making the selection of a subject of study; whereas the judgment of the senate or syndicate might be prejudiced or interested. As it is difficult to break an old habit or custom, so it would be difficult or painful to discontinue a subject which has existed for several years.

9. Fate of University Savings.

One might think that if a university makes a saving by reducing some subjects of study, the Government will not utilize the saving for other

educational purposes. As the Government do not directly interfere in the selection of the subjects of study, but have given the discretionary power to the universities in this matter, the latter should first submit a scheme for opening technical or other useful institutions, before making this kind of saving. It is to be hoped that Government will not be so stringent in the matter of education and usurp the savings of educational grants on other heads. The Calcutta University Commission and other Commissions for education, have already recommended the opening of institutions for the teaching of applied sciences and technical subjects. All the Provincial Legislative Councils and the Legislative Assembly, public bodies, the universities and leaders of the people will unanimously raise objections against such usurpation of educational grants for other purposes. Let us see what step the Government will then take;—there is no need of despairing prematurely.

Section 9

Curricula and Courses of Study

1. Primary and Secondary Education.—I have nothing to say regarding primary education, except that efforts should be made to impart them to the masses. Those pupils of the matric third class, who have no means to study upto Matric, should be examined on payment of a fee and certificates should be given to them by the Director of Public Instruction testifying to their having passed the *Middle Examination*. For professional teaching of such passed students, *Handicrafts Schools*

should be started. They should be taught such subjects as do not require education even upto Matric standard. Let me give some examples of such subjects to make my meaning clear,—poultry, automobiling, basketry, bee-keeping, blacksmithing, book-binding, carpentry, cooking, cycling, moulding, fruit culture, gardening, fitting, leather craft, tinsmithy, painting doors, etc., photography, plumbing, printing, sculpture, taxidermy, wood carving, turning, tailoring, etc. There should be at least one year's course. The schools can engage expert students on pay or piece-work to manufacture articles for sale by the schools. This is a means of helping them.

2. **Matriculation.**—The time of ten years for education upto matriculation should be reduced to 8 or 9 years by condensing the volumes of text books. This change will save one or two years' time of the students' life and the expenses of the guardians. By this reduction of the course by one or two years a number of teachers will be relieved from their service. The teachers of lower classes should try to open more village primary schools; or should first learn handicrafts or technical avocations, and then instruct the boys in them.

3. **F.A., FSc., F. Com. and F. Agri.**—Each of them should have a two years' course.

4. **Poly-technical Schools** should be established for the Matrics and F.A., and F.Sc.

5. **B.A., B.Sc. and B. Com. Pass Course** should extend to one year; and *Honours Course* for any of these degrees should run for six months or one year more.

This reform can be easily effected by prescribing only one subject of study instead of 3 or 4 subjects.

6. M.A. and M.Sc. *Pass Course* should extend to one year; and *Honours Course* on any of these degrees should run to six months or one year more. One who passes B.A. (Pass) or B.Sc. (Pass) cannot compete for M.A. (Honours) or M. Sc. (Honours) without passing Honours Course in B.A. or B.Sc.

A great relief will be felt by the candidates of Pass-course of these two higher degrees, if two years of their valuable life and energy are saved. The middle-class guardians are now feeling great difficulty in meeting the exorbitant charges of their boys in securing these two degrees (Pass and Honours) in 4, 5 or 6 years and in buying a number of costly books on those subjects. I see no reason or argument in compelling the students to study 3 or 4 subjects which have no inter-relation between themselves.*

(a) (i) A Classical language, or Urdu with Persian, or Hindi with Sanskrit; (ii) History; and (iii) Philosophy, or Political Science, or Economics.

(b) (i) English; (ii) a Classical Language, or Urdu

*Compare with the idea of Dr. A.H. Mackenzie expressed in his Convocation Address at the Agra University on 17th Nov. '34—on the subject of choosing a group of 3 subjects in B.A. course.—“Such a curriculum is without design or coherence and is based on no intelligible principle.” For the edification of the readers, I have quoted from the Prospectus of the Lucknow University for 1933-34, 7 groups of three subjects and general English.

with Persian, or Hindi with Sanskrit; and (iii) Philosophy, or History, or Political Science.

(c) (i) English; (ii) Economics, or Philosophy; and (iii) Mathematics, or Political Economy, or a Classical Language, or Urdu with Persian, or Hindi with Sanskrit.

(d) (i) English; (ii) History; and (iii) Economics, or Political Science, or Philosophy.

(e) (i) History; (ii) Economics; and (iii) Political Science, or Mathematics.

(f) (i) Philosophy; (ii) Political Science; and (iii) Economics, or History.

(g) (i) Philosophy; (ii) Economics; and (iii) Mathematics, or History."

Some of these groups may be consistent, and others may be incongruous;—it is not for me to pass any opinion on the point. My object is to save one year for Pass-course of B.A. This saving of one year is greatly beneficial to the students and their guardians; and also helpful in reducing university or college expenditure. After thinking and thinking about the easy solution of the problem of saving the valuable period of life, energy and money of thousands of Indian students, a sudden flash came to my mind, which at once solved this problem. Naturally protests will come forth from the professors against this nice proposal. But there is no means of warding them off.

Mr. J. Chaudhuri, B.A. (Oxon), M.A. (Cal.) in his Presidential Address at the 1934 session of the Calcutta Teachers' Conference said,—“The time required at our University (of Calcutta) for acquiring knowledge of

the British standard of graduation is now six years. At the British universities the time prescribed for obtaining high Honours in the graduation course as also for the Pass is only three years. Our youngmen possess brains which are in no way inferior to those of any other nation or race in the world** It would also afford great relief both to the university students and their parents and guardians"—*The Teachers' Journal*, Oct. and Nov. 1934. It is fair and reasonable that a B.A. or B.Sc. student should specialize in one subject in one year, instead of in 3 or 4 subjects in two years. Suppose one student passes B. Sc. in Mathematics in one year, he can pass in Physics the next year, and can pass in Chemistry in the third year. But such cases will be rare, because most of the students are anxious only to secure degrees. Instead of jumbling up three or four subjects in two years, it is certainly better and more judicious arrangement to allow the student to pay undivided and concentrated attention to one subject, instead of diverging or dissipating his attention in three or four subjects. The anomaly of fixing 2, 3 or 4 unconnected subjects for B.A. course should be removed without delay.

Section 10.

Inter-University Board.

The 18 Universities of India have formed an "Inter-University Board". It should select some common subjects and terms for study for all under-graduates and graduates of India, except vernaculars, which must be different according to Provinces. Each university can

make its own rules for its internal management, can set its own questions, and confer its own degrees. The degree-paper should be of bigger size and should contain the photo of the graduate, his age, address and such other necessary particulars, so that he can easily join any other Indian university according to his convenience. Suppose their guardians remove from Calcutta to Bombay or Lahore, the pupils after getting B.A. (Pass) degree in English, can easily join Bombay or Punjab University for getting his B.A. (Honours) degree in English.

It is painful to pursue some of the stiff rules of some universities regarding the admission of students coming from any other university of India. If the curriculum of all the universities be the same, the difficulty of the students in taking transfer certificates from one university to another after getting their degrees, will be minimised. One university can rigidly pass its examinees, but it is not at all desirable to give trouble to the students by framing hard and fast rules. Let all the Indian universities as a body give all facilities to the deserving candidates in securing degrees if they can show their ability, by abolishing all strictness regarding 75 per cent. of attendance to lectures and tutorials. The candidates may fall ill for 3 or 4 months and therefore may not be able to attend lectures or tutorials;—so it is not fair to debar them from appearing at the university examinations for no fault of theirs. If there is a possibility of their passing, it is not fair to put obstacles in their way to future prospects. If they lose one year, their future prospects might thus be blighted.

It is very difficult to solve the problem why the 18 universities of India have framed different curricula, and have devised complicated systems of curricula, courses and terms. It will take months to unravel the mysterious and complicated courses and codes of these universities. Admitting that there will occur certain slight changes on account of some new discoveries in medicine, science, antiquity and similar subjects in course of 5 or 10 years, still generally subjects of the books on other subjects will remain the same. When such is the state of things, the proper course of the universities is to unite themselves and frame common codes, courses, terms and curricula and thus save thousands of rupees every year, which the candidates are compelled to spend in buying the prospectuses of the 18 universities. If the Board find that the candidates for degrees in some Provinces have a little lower capacity or intellect, their standard of examination in one or two subjects might be lowered.

The Inter-Universities Board can easily publish Text-books of all the subjects which are to be taught in the universities and thereby save lakhs of rupees of the candidates in buying different text-books. It can criticize the wrong steps taken by certain universities in the matter of expenditure, examinations, favouritism, selfish ends, vested interests, and a number of irregularities, which are possible in all human institutions and administrations from the highest to the lowest. If they unite together by setting aside their petty differences, and reform their rules, curricula, etc., on a common

basis, they will be an educational power in the land.

Another serious defect of the universities is the changes in text-books of the same subject every year. This is an unsympathetic measure and only results in harassing the candidates. If a candidate fails to obtain a degree in one year on account of illness, family circumstances or any other unfavourable events, he is confronted with a little different text-book or course. A man of ordinary intellect can easily understand the secret purpose which lurks behind this change. It is a kind of penalty imposed on the candidates on account of failing to pass the examinations. The education authorities are requested with all the earnestness to generate in their mind a sympathy for the unfortunate candidates who fail in the examinations after paying college fees, boarding charges, examination fees, and after exerting as far as they could for one or two years. These losses are to be considered as sufficient penalties they have to suffer, not for their neglect, but for their bad luck. If they pass at the 2nd, 3rd or 4th year, I think the successful candidates will not be mean or jealous, on account of the fellow unfortunate candidates passing by the study of the same text books for 3 or 4 years. The universities should be so noble as not to change the text-books or subjects of text-books every year. They should not compel the candidates to buy 2 or 3 changed text-books on the same subject every year and to study them. The change of text books every year is a relic of an old prejudice of a long time.

It is not my object or business to find defects in

the rule of the 18 universities, but my object is to show the advisability of joint action of the universities in imparting really useful education to the youths of India in such a manner that they can fight out the battle of life successfully by properly cultivating their physical, intellectual and moral faculties. Let the unity of universities be a stepping-stone to the most desirable thing in education,—national unity.

CHAPTER IX

FOUR MODERN METHODS OF EDUCATION

In the present century four improved methods of education have been devised and introduced in the civilized countries. India should not lag behind. Although very little bookish knowledge is imparted by these methods, but through them the physical, intellectual or moral faculties are developed and expressed by actions.

1st Method.—Education of Children by Plays.

“The natural means of study in youth is play”.--*Play Way in Education.*

“Man has the instinct of curiosity and imitateness.”*
A child's play, therefore, is no indication of mere frivolity. It is the outward and visible sign of an eager and splendidly directed mental activity. Curiosity also prompts the child to store its memory. Imitateness impels him to acquire those mental traits which enabled his progenitors to survive in their world.—Dr. Archdall Reid, F.R.S.E., author of the *Principles of Heredity.*

This idea has been verified by experimentations of several years in several countries. Children under 10 or 11 years of age should be taught in this manner. Mr. Froebel and Dr. Maria Montessori (an Italian lady of high culture) have devised two slightly different systems at the end of 19th century;—the former of which is called

Kindergarten system. The civilized countries have approved and followed them in elementary schools.

There is one difficulty in introducing it in the primary schools especially of the villages of India. The difficulty is that the villagers cannot afford to buy the costly materials and tools manufactured in foreign countries for Kindergarten instruction. But by a little judicious selection of country materials and tools, it would be an easy affair to teach on these lines.

In teaching numbers, big seeds, shells, or ordinary beads of different kinds, earthen cubes moulded into various sizes and fire-burnt or sun-dried and white-washed or colour-washed, numbered cards or boards of different colours, etc., can be used.

For object lessons, the teachers with the help of children should collect different grains, fruits, vegetables, seeds, etc.; spices, foods, herbs, etc.; printings, writings, drawings, stationery, etc.; minerals, metals, earths, stones, etc.; pictures of animals, insects, plants, flowers, trees, vehicles, instruments, sports, buildings, physiology, races of mankind; decorations, natural phenomena, maps, paintings, photos, etc.; objects of common use, samples of textile fabrics, pictures and samples of different colours, etc. They should be kept in a room set apart for the purpose, properly arranged and labelled and classified. Object lessons should be regularly imparted.

Sun-dried or burnt bricks of small sizes (say $3'' \times 2'' \times 1''$) of different shapes should be supplied to the children and they should be asked to build towers, rooms, pillars,

pyramids, cones, arches, etc. with sticky earth and to tastefully paint them.

They should be taught to make models of fruits, vegetables, animals, household utensils, etc. out of plastic earth, to make flowers and leaves of paper, cloths, *shola*, scales of fish, etc.; toys, dolls, doll-houses, etc.

They should learn sewing, embroidery, knitting, spinning, weaving, caneweaving, bamboo-works, wire-articles, netting, buttoning and lacing, tailoring, decorating huts with leaves and flowers, etc.

They should be taught to sing singly or in chorus, to dance singly or in groups, to play on common musical instruments, to play for health and amusement, etc. They should be amused with puzzles, funs, indoor and outdoor games and sports.

They should practically learn the uses of common tools of carpenters, tinsmiths, gardeners, masons, bookbinders, potters, etc.

Let me emphatically assert here with all the force of conviction confirmed in the last 70 years of my life, that there can be no beginning of national education unless these or similar steps are taken.

NOTE.—I have given only some hints regarding the occupations of the children. Illustrated books on the Kindergarten teachings should be published in English and vernaculars. Sample objects and exhibits, productions of school-children should be exhibited in *Children's Museums*, which should be established in the principal cities of India. When necessary, duplicate articles of the Museums should be lent or sold to village schools.

2nd Method—Ambulance Work and First Aid.

These two measures are very useful in sudden illness and accidents.

A. The Ambulance man must know the fireman's lift, how to drag an insensible man with ropes, how to improvise a stretcher, how to fling a life line; the position of main arteries; how to stop bleeding from veins, artery, internal or external; how to improvise splints and the triangular bandage for any part of body, and for fractures of lower and upper leg, arm, jaw, ribs, knee-cap, collar bone, how to deal with choking, burning poison; grit in eye; sprains and bruises how to diagnose and treat fits, fainting and insensibility. He should study the laws of health and sanitation, including dangers of smoking, taking intoxicants, incontinence; want of ventilation and lack of cleanliness.

B. The principles of First Aid are explained in the following sentences.

First Aid is a special and distinct branch of medical and surgical knowledge for the instruction of lay persons in the art of rendering temporary aid in accidents and in cases of sudden illness. The ambulance student is taught to be neither a nurse nor a quack doctor, but is simply and fully instructed in what he or she should do in the absence of skilled medical advice.

The principles which guide First Aid students are seven in number, viz:—

1. His duty is to endeavour to obtain medical assistance, and whilst waiting for the doctor to attend to

actual emergencies only. He must never undertake continued treatment of injuries or sickness.

2. He must, if possible, promptly remove (or remove the patient from) the cause of injury and danger.

3. He must first stop any severe bleeding associated with an injury.

4. He must place an injured part in as comfortable a position as possible.

5. He must accustom himself to utilizing improvised material, as accidents generally happen when no appliances, such as splints and bandages, are at hand.

6. He must provide an injured person with as much fresh air as possible and keep his patient warm or cool as the case may be.

7. He should endeavour to be:—

(a) *Observant*, that he may note the *causes* and *signs* of injury and illness.

(b) *Tactful*, that he may without thoughtless questions learn the *symptoms* and *history* of the case.

(c) *Resourceful*, that he may use to the best advantage whatever is at hand to prevent further damage and assist Nature's efforts to repair the mischief already done.

(d) *Explicit*, that he may give clear instructions to the patient or the bystanders how best to assist him.

(e) *Discriminating*, that he may decide which of several injuries press most for the treatment by himself, which can best be left for the patient or the bystanders to treat, and which must be reserved for treatment by a medical man.

Further, if he be *Dexterous* and handles his patient without aggravating his pain and his appliances to the best possible advantage; if he be *Persevering* and continues his efforts even when these are not at first successful and if he be *Sympathetic* and affords real encouragement to his patient,—then he is a true ambulance worker.

Preparation for Doctor.—When sending for medical help, *always send a written statement* as to what the patient is suffering from. If this is done, the doctor will bring with him appliances and remedies likely to be required. This saves much time and in many accidents may actually save life. Ten minutes' delay, for instance, in hæmorrhage or poisoning, makes all the difference to the prospects of saving the patient's life."

If one hour every day is devoted for a fortnight, the students can be practically instructed in the principles and operations of First Aid. If the teachers and students actually do this humanitarian work, their heart will be enlarged and the spirit of helping each other will be generated, and they will be made fit for social service. By this means one of the noble objects of social life will be achieved.

The 3rd Method.—Scouting.

Explanation of Scouting (as given by Lord Robert Baden Powell in his book "*Scouting for Boys*".)

By the term *Scouting* is meant the works and attributes of cockwooden, explorers and frontiers men.

In giving the elements of these to boys we supply a system of games and practices which meet their desires and instincts, and it is at the same time educative.

From the boys' point of view Scouting puts them into fraternity-gangs, which is their natural organisation, whether for games, mischief, or loafing; it gives them a smart dress and equipment; it appeals to their imagination and romance; and it engages them in an active open-air life.

From the parents' point of view it gives physical health and development; it teaches energy, resourcefulness, and handicrafts; it puts into the lad discipline, pluck, chivalry, and patriotism; in a word, it develops "character", which is more essential than anything else to a lad for making his way in life.

The principle on which scouting works is that the boy's ideas are studied, and he is encouraged to educate himself instead of being instructed.

The principle is in accord with that of the most up-to-date educationist. The training is progressive and adapted to the changing psychology of the growing boy.

The Wolf Cubs, 8 to 11: encouraged to develop themselves as individuals, mentally and physically.

The Boy Scouts, 11 to 17: developing character and sense of service.

The Rover Scouts, from 17, for practice of the scout ideals of service in their citizenship.

From the national point of view our aim is solely to make the rising generation into good citizens.

Our training divides itself under four heads:—

1. *Individual character* training in resourcefulness, observation, self-reliance to gain the scout's badge.
2. *Handicrafts and hobbies* which may help a boy

to make his way in life, for which we give "Proficiency badges".

3. *Physical Health* by encouraging the boy to take plenty of exercise and to look after his body.

4. *Service for the State*, such as fire brigade, ambulance, mission, life-saving, and other collective public duty by the troupe.

NOTE:—It will take at least 100 pages to give a list of all kinds of scoutcrafts, practices, games, plays, and activities with explanations. So I had to omit them, requesting the readers, who feel interested in the scout-movement to read 332 pages of the interesting book named "Scouting for Boys" and several other books on the subject.

All the teachers and professors of schools and colleges should read these books and try their utmost to introduce *Scouting* in all the schools and colleges of India, because it is one of the most useful recent practical methods for improving the health, habits, activities, manners, behaviour, and morals of students. "That there is in India today a general demand for a genuine youth movement for the regeneration of the boyhood" of the country cannot be denied.—C. Subha Rao, M.A.

"Change, Growth and Progress—these are the very essence of a live movement". —*Ibid*

Centuries ago scouting was confined to the military department, which employed scouts in times of war to be informed of the whereabouts of the enemies. Duke of Marlborough (b. 1650, d. 1722) was a great scout himself; and Cromwell (b. 1599, d. 1658) had officers styled "scout masters," whose business it was to collect all possible infor-

mation regarding the enemy through scouts and spies, etc.

In the opinion of Lord Robert Baden-Powell, Chief Scout, men for scouts are selected as having the following qualifications: *General intelligence*, smartness, good character, good eyesight and hearing, light weight. *Health and soundness* (especially as regards venereal disease and drink). *Ability to turn their hand to any kind of work*. *Ability as riders*. *Ability as swimmers*".

For the last twenty-five years the scout-movement has outstripped the limits of the military department and has spread over all the civilised countries. In England, the movement began in 1907; in America, from 1910; and in India, from 1911. There were about 1,73,000 scouts in India in 1931; in United Kingdom 371,256 in the year 1929; in the British Empire 6,54,130; and in America, 900,000, there are some 750,000 Girl Guides in the same year. The number is increasing rapidly. The movement has grown and expanded automatically without any Government subsidy.

Description of the scout movement.—"Scouting is a Companionship—a way of living. It values *deeds* above *words*. It builds character through habit and citizenship through service. It develops co-operation through co-operating. It learns through doing. Its outdoor craft enhealthens, deepens, and enriches boy life. "Scouting is a process of making real men out of real boys, by a real program."—Handbook for "Scout-Masters". (American book).

"The Scout Movement has been acclaimed as the greatest educational experiment of the twentieth

century. Its aims and ideals are in accord with those of the most up-to-date educationists. Its methods are based on well-recognized principles of boy psychology and its system of games and practices makes a wide appeal to boys of all countries. Youths of over 50 nations have come under its beneficial influences."—*Scouting in India*, by C. Subha Rao, M.A.

"An Indian Scout Movement should breathe of Indian traditions, customs and ideals. It should, in fact, embody in its working every phase of Indian culture and genius. And Indian Scouting should be creative, not merely imitative as it unfortunately seems to be today."—*Ibid*, p. 5.

Seva Samiti Boy Scouts Association has been started at Allahabad, U. P. It has more than 10,000 members. The Association is a non-military, un-denominational and non-political organization, and shall not identify itself with any religious sect, social class or political party. There is also an official Association in India by the name of "All-India Scout Association". In America there is also a "Board of the Girl Scouts" constituted by women. "The Seva Samiti Boy Scouts Association" also includes girls between the ages of 11 and 17. The rules for the girls differ from those for the boys. Instead of "Girl Scouts", they are named "Girl Guides." To become a scout, a boy must be between the age of 11 and 17. The age of a Scoutmaster shall not be less than 20.

"The Scout promise is :—

On my honour I promise that I will do my best :—

- (1) To do my duty to God, King Emperor and Country.
- (2) To help other people at all times.
- (3) To obey the Scout Law."

—(according to the "Seva Samiti").

The Scout Oath. (in America) is:—

"On my honour I will do my best—

1. To do my duty to God and my country, and to obey the scout law;
2. To help other people at all times;
3. To keep myself physically strong, mentally awake, and morally straight".

Scout Law

- (1) A scout's honour is to be trusted.
- (2) A scout is loyal to the king, his country, his officers, his parents, his employers and to those under him.
- (3) A scout's duty is to be useful and to help others.
- (4) A scout is a friend to all and a brother to every other scout, no matter to what social class the other belongs.
- (5) A scout is courteous.
- (6) A scout is friend to animals.
- (7) A scout obeys orders of his parents, patrol leader or scoutmaster without question.
- (8) A scout smiles and whistles under all difficulties.
- (9) A scout is thrifty.
- (10) A scout is pure in thought, word and deed".

(According to the *Seva Samiti*).

Merit Badges

They are awarded to the older and experienced scouts after regular examination by Scout Associations. In America there are 90 such badges. Some of them, such as Camping, First Aid, Forestry, Signalling and Stalking, are directly related to the basic activities of scouting. The *Seva Samiti Boy Scouts Association* issues about 60 kinds of Merit Badges for Boy Scouts, and 33 kinds to Girl Scouts. Let me give below a list of some kinds of Badges to form an idea about them. Ambulance Man, Artist, Athlete, Basket Worker, Blacksmith, Book-binder Carpenter, Chemist, Clerk, Cook, Dairyman, Electrician, Entertainer, Farmer, Gardener, Handicraft in leather, string, etc., Healthy Man, Home Nursing, Leather Worker, Musician, Path-finder, Photographer, Painter, Potter, Public Health Man, Rescuer, Spinner, Swimmer, Tailor, Telegraphist, Weaver, Collector of Stamps, Botanical specimens, etc.; —(for girls) First Aider, Guide, Child Nurse, Teacher, Artist, Cook, Child Physician, Dairy Maid, Domestic Maid, Embroideress, Gardener, Knitter, Laundress, Photographer, Sick Nurse, Toy-maker, Telegraphist.

The National Council of the Boy Scouts of America, 2, Park Avenue, New York, U.S.A. have published more than 100 pamphlets containing subjects of boy activities and vocations, at 18 cents (about 3s) each. They have also published a great number of books on Scouting. England and America have published a number of books and journals on Scouting.

Objects of Scouting

"Scouting is designed to give boys healthful activities, and turn their mind to useful things. There are in scouting plenty of games and pastimes ; plenty of things to learn by using their hands, eyes, ears, voices, their whole bodies; several handicrafts to learn, badges to earn, good turns to do and services to perform. Their creative instinct is satisfied. They are doing all the time. Scouting, properly done, must play an important part in building character by guiding the leisure activities of the boys."—p. 91, "Scouting in India" by C. Subha Rao, M A.

"Scouting puts boys in fraternity gangs, supplies them healthy companionship and wins for them the leadership of one interested in their welfare. Boys like examples in action. They grow like the boys with whom they live. Genuine admiration of one another's excellence and of their leaders, who are like elder brothers to them, acts as a powerful incentive in the formation of character in them. Boys 'catch' character. Any scoutmaster of average abilities can effectively 'form and strengthen' character in the boys, if he possesses enough strength of character himself. It is in this that the example of the scoutmaster counts most. Scouting understands the psychology of the boy and exploits his instincts of play; of the herd or gang of imitation or hero worship, also the creative instincts for its purpose, viz., the development of character."—*Ibid*, p. 92.

"The Scout Law and Promise supply a moral code of daily conduct to the boys. A scout is expected to judge

all that he does by this standard. It is not merely an ideal which he should reach at some distant date, but it must be a living principle in his every day conduct. He lives with his fellows and is judged by his actions. Scouting is, therefore, a way of living. The position of the scoutmaster is that of an exemplar. It is his duty or privilege to encourage boys in the desire to develop themselves, to give a practical demonstration in his person of clean living and of high character. Character comes from a life of self-discipline. It is not something that can be imposed from above. It is a matter of growth from within. Mere moral sentiment does not constitute character. Moral sentiment expressed in action alone does. That is why character-forming activities—activities where self-discipline, sacrifice, control are required—should form part of the programme of scouting. To the extent to which this is done, to that extent can a scoutmaster's work be said to be successful."—Ibid, p. 93.

A suggestion.—Let me suggest to the Scout Associations of India to introduce a clause in the oath to abstain from smoking and use of intoxicants. If that is not possible, there should be a strict law in this respect. Unless the scouts and scoutmasters show by their examples that they are not enslaved by the two great Demons Smoking and Drinking, I think they will not be able to induce their fellow brothers and the other persons who would come into their contact to give up these bad habits, for which the people of India are suffering the greatest loss of money of about 75 crores of Rupees

every year, in addition to the loss of health of the body and mind. In the pages 310,311 and 312 of "Handbook for Scoutmasters" of America are described the evil effects of smoking and drinking. If the Scout Associations fail to drive away these two great evils from their movement, their object might fail to a great extent and they might have to repent in future for not crushing to death the embryos of these two demons. "Very much of the poverty and distress in this country is brought about by men getting into the habit of wasting their money and time on drink". ** The old saying, 'strong drink makes weak men', is a very true one."

"Yet £161,060,432 were spent in one year alone on drink in the United Kingdom—enough to have made every family in the country better off by £ 15 if they had drunk water. And this £ 15 would be increased to £ 22 if the men give up tobacco." "It would be simply impossible for a man who drinks to be a scout." "A scout does not smoke." **"Any scout knows that smoking spoils his eyesight, and also his sense of smell, which is of greatest importance to him for scouting on active service." ***"A priest in the East End of London has stated that out of a thousand cases of distress known to him, only two or three were not caused by drink."—Lord Baden-Powell in his book "Scouting for Boys," published in 1932.

4th Method—SOCIAL SERVICE.

"Man is not on earth to be happy. He is here to

be honest, to be devout, to be good."—Professor Radhakrishnan's Convocation Address on 17th November 1934.

"It is for the universities to produce men who are able to stand out of the welter of common-place egoism and seek the public good, who have intellectual conscience to see the truth and the moral courage to pursue it." *Ibid*

"Civilization is the power to renounce. It is control over selfishness, individual and corporate. It is peaceful co-operation." —*Ibid*

Oh! ye, the dutiful sons of India! hark the clarion voice of Mother India, calling you to learn, practise and preach the doctrine of unselfish social service to the people.

1. **Definition of Social Service.**—"Social service is that form of effort for man's betterment which seeks to uplift and transform his *community life*. Its aims are the development and perfection of the institutions of man's *associated life*, and the construction of a social order which shall be free from disease, poverty, crime and misery. Social service seeks to relieve distress and need in such ways as to help men most effectually. **It believes that the church, the family, the school, the state, are all means and agencies through which these ends may be sought.**" * "Isolated deeds of kindness to individuals are not properly called social service. This does not mean that isolated deeds of kindness for individuals are not urgently needed." —"*Social Service and Exhibits*" by Rev. D.J. Fleming, M.A., M.Sc., p. 222.

(a) Study of it. "If young men of any country are to grapple with the real causes of misery and overcome

them, they must begin with a patient study of facts".**

"Three elements are required;—energy enough to keep thinking, patience enough to keep trying, faith enough to believe that there is a plan somehow which will attain the result desired."— *Ibid*, p. 3.

(b) Exhibits. "The material for Public Welfare Exhibits consists of maps, charts, placards, banners, screens, objects, models, pictures, photographs, enlargements, blue prints, lantern slides, etc. made with the object of showing (a) conditions and (b) improvements urged. The careful, painstaking preparation of the material may prove one of the greatest services which can be rendered." —*Ibid*, p. 10.

(c) A Social Museum. "Every large city in India ought to have a growing Social Museum containing graphical illustrations of Social Surveys, Industrial Conditions, Housing and City Planning, Sanitation, etc. This material should not only be derived from the city itself, but from other cities in India, and from other countries in the world." —*Ibid*, p. 13.

(d) Social Service Committee in every College. Francis E. Willard, the late President of the World's Women Christian Temperance Association, says;—"Alone we can do little, separated we are the units of weakness; but aggregated we become batteries of power. Agitate, educate, organize—these are the deathless watchwords of success." —*Ibid*, p. 17. The authorities of every college of India should collect books, pamphlets, leaflets, reports, charts, and pictures on different departments of social service and encourage the teachers and students

to do social work as far as they can; and study social problems. Every year prizes should be given for social essays and certificates should be given for meritorious works. This is one of the practical and beneficial applications of the knowledge of the present history, economics and social science.

2. **Citizenship.**—"It is the condition of full commercial, social living in a democracy." **The "making of a City is one of the largest and most important tasks of modern civilization." There are multifarious duties of citizens and several publications on the subject of improving cities. I cannot afford to give space for publishing these lists in this book. The present Deputy Mayor of Calcutta has given a list of some purely municipal subjects that legitimately come within the purview of the City Fathers;—"More education, more improved roads and *bustees*, better sanitation, better drainage and conservancy, larger water supply, improved housing schemes for the *Harijan* employees of the Corporation, better amenities of life for the citizens, more efficient control of the epidemic diseases, more effective tackling of the vital questions of child mortality and maternity, purer food supply, closer thoughts over the question of town planning, better lighting, more libraries and museums and a host of other subjects."—*Calcutta Municipal Gazette*", 24th November 1934.

Let me quote here the saying of poet Rabindra Nath Tagore on the subject on the occasion of his 70th Birthday Celebration, 1931.—' Let this Corporation make the

city of my birth great in the amenities of life, health and sanitation, and dignity and self-respect. Let painting, sculpture, music and arts grow under its auspices, and make the dwellings of the citizens abodes of joy. Let this city wipe out its blot of illiteracy with all its dirt and uncleanness; let her citizens enjoy plenty, have strength of body and energy of mind, and be inspired with civic spirit born of joy; let not the poison of internecine strife pollute her life; let her citizens of all races and all sects and communities unite in goodwill and keep her fair name untarnished and her peace undisturbed,—this is my prayer."

Let me also quote here what Pandit Jawaharlal Nehru wrote in the *Calcutta Municipal Gazette* in 1919. — "What are the objects of a municipality? Not merely to build fine buildings, but to build fine men and women, to build up a healthy and progressive community with co-operation and public service as ideals. So long as poverty prevails, the community cannot be healthy. There will be disease and crime and social upheaval. Therefore, the primary duty of a Municipality is to remove poverty. It should not seek to alleviate it, but to root it out. The best service of the poor is to abolish it."

In a model city the houses of the rich and the poor are alike comfortable and beautiful; living is pleasant, toil honourable and recreation plentiful; industry thrives and brings prosperity alike to employer and employed; education and art have a place in every home; worth and wealth gives standing to men; power of character lifts man to leadership; and interest in public affairs

is a test of citizenship and devotion to the public weal is a badge of honour.

3. Education.—If the Indian nation has an ambition to be counted as a great nation, it must educate the people. Never dream for a moment that the Government would take up the task of educating 36 crores of inhabitants by organised state schools. The educated persons shall have to make strenuous self-sacrificing efforts in educating the ignorant masses. Japan has become great, by educating 95 per cent. of its people; and India's head is lowered on account of its having 95 per cent. illiterate. No expensive buildings, elaborate text-books and great outlay of money are needed. Only a few books, a thatched hut or clean open space and 3 or 4 ordinary teachers, honorary or at a small pay, matting and small stationery are needed to start a village school. A widow, an unmarried or married lady can teach the girls and elderly women. If the leading residents be induced to take interest and a schooling fee from two to four annas per month be fixed, the school will gradually flourish. Night schools might be opened for labourers, agriculturists, artisans, etc. "Encouragement by means of petty prizes of dolls, toys, and books, as also occasional picnics, arranging special seats for the students to witness some performances or procession, will very much attract the young girls and boys of the place towards such institutions." The villagers should be instructed to leave off smoking, drinking, gambling, litigation, useless ceremonies and thereby save money and pay 10 per cent. of the savings for the up-keep of the school. Physical games,

singing, drilling, recitations, magic lantern with educative slides, dramatic plays, and similar recreations might be introduced.

4. **Libraries.**—They are the necessary adjuncts of education. For a village, at least about Rs. 100 should be spent on collecting some elementary books,—such as vernacular text-books, pictorial books, books on health and hygiene, drawing books, scientific primers, kindergarten books, etc. For a city library Rs. 1000/- to Rs. 5000/ might be spent. Most of the city libraries spend large sums of money for buying books of fiction, series of costly books which are seldom circulated, rare classic books, books on antiquity and many other books which only a few readers appreciate. Instead of buying books haphazardly, city libraries should select with scrutiny books to be bought, according to certain rules or principles. If they buy books of ornamental nature, they will be in want of funds for buying useful books,

In course of last 50 years, I saw the foundation of several libraries of Calcutta and have watched their progress, but I find a great defect in the selection of books. The number of volumes in a library or the amount spent on it is not the criterion of its utility. The books should be largely read and they should be *useful* to the readers in acquiring *useful* knowledge. Somebody proposed that a big library should be established at Calcutta at a cost of Rs. 50,000;—notwithstanding the the existence of the Imperial Library and the Commercial Library of Government, and a number of public libraries in the different wards of Calcutta. It is a matter

of regret that most of these libraries do not generally keep books on the following subjects:—social service, anthropology, eugenics, ethnology, mechanics, temperance, vegetarianism, diet, health, hygiene, elementary science series, handicraft series, technical series, manners and customs (pictorial), scouting, kindergarden, maternity, childwelfare, pictorial guide books of principal cities, reports and publications of famous educational societies of England, U.S.A. and Japan, elementary music, recreations, physical culture, museums, important statistics of India re education, diseases, budget, meteorology, mortality, etc.; illustrated zoology and botany, physiology and anatomy, pictorial astronomy, mysterious sciences, such as, mesmerism, physiognomy, palmistry, phrenology, spiritualism, etc. As I am a native of Calcutta, I have expressed my views regarding Calcutta libraries,—but they might apply with equal force to the other libraries of India.

Let me mention here that I am in favour of *popular* books on the aforesaid subjects. One hundred such books can be procured at Rs. 250/- to 500/-. They can be gradually bought in course of 5 years. I would suggest that the libraries of a big city can form a United Library Committee for the selection of books. The Committee can select at least 100 best books, which every library should try to possess. Anyhow there should be an intelligent method of selection.

5. Some Educational Agencies are mentioned here. I have no space to go into details. (a) Lantern Lectures, (b) Moving pictures and Talkies, and (c) University Extension Work are some such agencies.

The university authorities can encourage students to discharge their duty of educating the community on suitable occasions or during vacations. The professors, graduates, undergraduates, and old graduates can take part in musical or dramatic entertainments, with or without stage, physical plays, magic, scientific entertainment, etc. and thus educate the younger students and the public. Some universities of the U.S.A. have already set examples in this line. (d) Escorting young people to the Museums, Mills, Factories, etc. (e) Reading to the illiterate leaflets on Religion, Temperance, Malaria, Tuberculosis, short Biographical sketches, Natural Wonders, strange Animals and Plants, etc. (f) Securing Public Lectures in vernacular by Inspectors of schools, Medical men, Teachers, etc. on popular topics.

6. **Sanitary Living.**—Several important Indian publications should be studied, for example, "Tropical Sanitation" by Sir Pardy Lukis and Major Blocknan, Thacker, Spink & Co., Calcutta, Rs. 3-8-0; "Elementary Hygiene" by Bedford, S. K. Lahiri & Co., College St., Calcutta, Rs. 1-8-0; Publications of the Health Departments of Bombay, Lahore, and Calcutta; and of England, Chicago and New York. Statistics of infant mortality and deaths from various diseases should be collected. Industrial sanitation, school sanitation, contagious diseases, drainages and cesspools of villages, adulterated and unclean milk, *ghee* and other food stuffs, cowsheds, wells and tanks, etc. should be inspected, studied and reformed.

7. **Public Recreations.**—Cinemas and Theatrical houses should be inspected with reference to sanitation

and moral or immoral influence. Literature on the subject should be studied. There are various departments of recreations, for example, physical and mental games, telling stories, concerts, planning excursions, magic, marching and drill, scouting, picnics, indoor or out-door public recreations of dramatic, jocular, or scientific nature, which have educative value, etc.

8. **Helping the Sick and Afflicted.**—Show of sanitary appliances, such as, model sputum cup, eye-cup, truss, vibrator, enemas, ambulance exhibits, midwife's instruments, child welfare appliances, disinfectants, filters, etc. Show of actual workings of blind and deaf students. Visiting hospitals, orphanages, poor-houses, blind-schools, deaf schools, leper asylums, lunatic asylums, etc. and helping the inmates in various ways.

9. **Helping the Poor and Untouchables.**—Individual charity ennobles the heart; but social service requires organized charity through associations or municipalities. There are a number of charitable activities, such as, feeding the poor, and giving them shelter and clothing, educating their children, providing them with work or employment, establishing homes for the poor, etc. Ladies should visit such institutions and thereby expand their outlook and generate sympathetic feelings in their heart.

"Almost one-fifth of India's population belongs to this unhappy category—the depressed classes,—and they labour under disadvantages and hardships which are almost appalling. The highest castes as a rule take no interest in them; there is the social exclusiveness

of the caste system, the barbarous avoidance of the touch of certain classes." Literature on the subject should be studied. "The Depressed Classes,—An inquiry into their condition and suggestions for their uplift," G. A. Nateson & Co., Madras, Re. 1/-, 1912. This volume is a collection of the views of eminent Indians and Europeans on the subject. "The Outcastes' Hope" by G. E. Phillips, p. 132, Re. 0-14-0, may be had from Christian Book Society; Government Reports etc. on the subject, should be studied.

Rev. Fleming writes;—"Education is one of the most practically helpful ways of serving the depressed classes.....Education leads on to greater self-respect. It makes those who are educated feel their own advance, and it creates in them a desire to help themselves and raise themselves.....Thirdly, while education is the most revolutionary force in the whole world, it is not sudden or volcanic; it is not destructive or anarchical; it is rather constructive and gradual; silent and up-building. It, therefore, disturbs least the immediate social status, while it leads on to the greatest social changes in the future." The problem, in what manner they should be educated, is rather difficult;—it can be solved only by experienced men. But it is certain that unless these depressed classes, who form the limbs of the national body, as it were, be reformed, the progress of the nation as a whole will be hampered. According to Justice Chandravarkar;—"In elevating the depressed classes we are but elevating ourselves."

10. Temperance.—In consideration of the enormous

losses of the Indian people on account of their drinking and smoking habits, I believe that in India the subject of temperance is one of the most important social subjects. I wonder why the Government legislators and the members of Legislative Councils attach little importance to this matter of Prohibition of Intoxicants ! Why do all the Provincial Councils and the Legislative Assembly not pass resolutions in favour of Prohibition at every session ? Why all the schools, colleges and universities do not regularly teach the evils of intoxicants and smoking to all the students, is a mystery, which cannot be solved by me ! Although a vast number of the people of India is addicted to intoxicants and smoking, still there is hope of freeing the people from intoxication in course of 5 years or less, if the Government empower the District Boards and Municipalities to stop the traffic by Local Option. But being enchanted by the amount of 25 crores of annual revenue, the Government has forgotten all codes of their duty to the people ! As long as the revenue prospers, who is going to care for the losses of the poor people ? If the Government stop the traffic altogether, and realize 25 crores from the people by fresh taxes and spend the amount on popular education, still the people might save 50 crores now spent on intoxicants and lost on account of idleness and diseases due to intoxication;—I think that the people suffer a loss of about 75 crores of Rupees every year on intoxicants and smoking, and their consequences.

Millions of Indians are not only losing money, but are suffering from various diseases produced by the

use of intoxicating drinks and drugs, and by smoking or chewing tobacco. Even educated persons are ignorant of the evils of drinking and smoking. Ignorant and foolish Indians are ruining their health and wealth. This sort of pitiable ignorance, is one of the principal causes of the physical, moral and economical degradation of the nation. The educated persons should thoroughly study the ravages of the nations of Europe and America by alcoholic drinks. Their cataract of ignorance, which has made the people blind to the evil effects of all sorts of intoxicants and tobacco, should be removed by the lancet of knowledge on the subject. The educational authorities have made a grievous mistake by not introducing temperance books in schools and colleges. All the teachers and all the students should be non-smokers and abstainers from intoxicants. Every school or college library should keep books, pamphlets, lectures, charts and pictures on temperance. In India some temperance periodicals in English and vernaculars are issued. There is a vast literature on the subject;—only a list of books will cover 50 to 100 pages. All educated persons should consider this subject as more important than a number of subjects of literary importance,—because intemperance and tobacco are causing a heavy loss to the Indians of about 75 crores of Rupees every year. Hundreds of doctors, statesmen, law givers, justices, religious reformers, etc. have given their strong verdicts against alcoholic drinks,—which would fill up hundreds of pages. Half a century ago, Gladstone the prime minister, pronounced in the

Parliament,—“Drink has been the cause of a curse more terrible, because more continuous, than war, pestilence and famine combined.” *The Times* of London in January 19th, 1863, wrote, “The use of strong drink produces more idleness, crime, disease, want and misery than all other causes put together.” “We are fighting Germany, Austria, and drink; and as far as I can see, the greatest of the deadly foes is drink.”—Lloyd George, Prime Minister. “Give me a teatotal army and I will lead it anywhere.”—Lord Roberts. “Alcohol, by diminishing the moral and material strength of the Army, is a crime against national defence in the face of the enemy.”—Marshall Jofre. “The drink traffic in India was a new, dire and additional plague and that there was a case for putting down the abnormal growth of the evil.”—Mr. Morley (Secretary of State for India) on 1st August, 1907.

The Government has the monopoly of the traffic on all intoxicants, and is satisfied with a vast revenue of about 25 crores of Rupees every year out of this vicious and nefarious trade. They can easily stop the nasty traffic in a short time with a vote of 95 per cent. of the people of India. The Englishmen profess to be followers of Christ. It is against the teachings of Christ to raise money from the poor, ignorant Indians in this fashion. How many industries can be started with this vast amount! This loss is not less than the loss of the people in buying foreign cloth! The educated people should teach the ignorant people the evils of intoxicants and persuade them to leave off their use;

and the Government and the Indian States should help the people in this righteous work. If thousands of trumpets call out the sleeping people of India and say to them,—“Leave off all sorts of intoxicants and learn to follow the rules of health;”—few will care to pay attention to the sound advice and fewer will act accordingly. Their conscience has been petrified! Their love for their own health and that of their family members and fellow countrymen has not been awakened! It aches my heart to think of this pitiable state of the Indians. They are suffering from so many calamities; yet they are asleep. Who will awaken them? If the people are determined to shake off the slavery of intoxicants, the Government will not enforce them to be slaves of intoxicants,—their apathy will be converted into sympathy. The English people are also yoked, enchained and enslaved on account of drink by the Siren of Temptation or Demon of Sin! They spend about 400 crores of Rupees every year on alcoholic drinks. (Please read pages 127 to 140 of “Personal Hygiene” compiled by this author on this subject).

The history of the temperance movement in England, in the United States of America, and also in other countries, is more instructive than the history of the extinct kingdoms of Syria and Assyria, Carthage and Ninevah. Educated men should read such history. After persistent agitation of thousands of persons for 60 or 70 years, the United States of America banished Drink by legislation some 6 or 7 years ago,—but recently beer is allowed to be sold. How respectable women were stationed

before liquor shops in the American cities to prevent the sale of alcoholic drinks and how they were fined and imprisoned for this kind of intrusion ; then how those women were banded together as Christian Women's Temperance Association with over 200,000 lady members to fight out the cause of temperance and worked for 40 years or so under the presidency of Miss Francis E. Willard (b. 1839, d. 1898) ; how Mrs. Leavitt, Corresponding Secretary of the World's Women's Christian Temperance Association, alone travelled over the world for 7 years at a stretch, delivering temperance lectures by presenting facts and figures (she delivered 3 consecutive lectures at the Dalhousie Institute, Calcutta) ; how hundreds of Temperance Societies of England and America have been waging war against the Arch-enemy of the world, the personified Liquid Fire, for about a century by means of lectures and by the circulation of millions of periodicals, books, tracts, charts, pictures, etc ; how the thrilling orations of J.B. Gough, once a drunkard, incited one Indian missionary Rev. Gelson Gregson to devote his life for the cause of temperance and who organized Army Temperance Association in India and turned about 16,000 drinking British soldiers into total abstainers and greatly reduced the liquor expense of the army ; and how Sir Wilfred Lawson, a member of the Parliament, agitated for an Act of Suppressing Liquor Traffic for 30 years or more ; and expressed his desire to agitate for another 30 years ;— such are the interesting narrations of noble and self-sacrificing acts of men of noble nature.

11. Prevention of Cruelty to Animals.—As thou

lookest to thy God for thy protection, so do dumb and helpless animals look to thee for their protection. If thou hast no mercy for them, thou hast no claim for God's mercy for thyself.—Lord Buddha.

No civilization is complete which does not include the dumb and defenceless of God's creatures within the sphere of charity and mercy.—Queen Victoria.

Not only savages, but also civilized people kill ferocious and poisonous animals, beasts, reptiles and insects, for their own safety; and also kill birds, beasts, fishes, insects, etc. for making feasts of them. According to the legal code of most of the civilized societies, this kind of killing is not considered as crime or cruelty. But whenever men unnecessarily torture animals when killing them for the above two purposes, it is considered as cruelty. When hard-hearted people overload asses, bullocks, camels, horses, etc. for the purpose of earning more money; or torture fishes and birds by flaying alive and torture animals in various ways, they commit cruelty and crime. The Government of India has enacted Act XI of 1890 for the Prevention of Cruelty to Animals within the jurisdiction of Municipalities and Cantonments of big cities, where Societies for the Prevention of Cruelty to Animals should be formed for punishing the breakers of the law by fines. Good-hearted people should dissuade the perpetrators of the crime to desist from doing so. If we show as much mercy as we can to the animals around us and generate tender feelings within us, we will be doing good service to our own selves; as well to our family-members who watch our tender behaviour to the

animals. Persons of tender feelings have enjoyed the pleasure of showing tender behaviour. Hard-hearted men, butchers, killers of sacrificial goats, hunters, and men of such profession have not the good fortune to feel this joy in their life.

12. Highest Form of Social Service.—“Happiness does not consist of having everything we want. Happiness is love. Love is service. And the world should be saved by love.”—Miss Helen Keller of U.S.A., the world-famous deaf-and-blind lady.

“The greatest formative social force is religion. To help men to worship God in spirit and in truth is the highest social service. Would that the great truth of the fatherhood of God as taught by Jesus Christ might more dominate our lives and service!” -- Rev. Fleming.

Unspoken faith in the mercy of the Lord and unselfish love for humanity are the necessary conditions for doing the highest and greatest service to humanity. The men who have generated this kind of love are capable of doing highest form of social service. But the persons who have not yet risen above the scale of animal life, and whose brutish nature is predominant, are unfit for this service. They will by their nature drag the society down to lower level. The majority of the first class people can uplift the society to some extent, but as long as men of the second class will go on exerting their evil tendency, the society will exist in a diseased state.

Only Incarnations and Messengers of God, who are direct currents emanating from God, uncontaminated by

worldly desires, and who assume human form for elevating mankind, are really capable for this highest kind of service. Their real devotees, whose minds are purified to a great extent, can also do some great service. Oh ye the lovers of Indian people! read the merciful deeds of self-sacrifice and unbounded love of Buddha, Christ, Mohammad, Kabir, Nanak, Chaitanya and their true followers and missionaries; and heartily pray to God, with folded hands, heavy heart, penitent mood, tearful eyes, lying flat on the ground, day after day, for granting us the advent of such Great Beings for India's regeneration. Methinks, if one crore of Indians out of 36 crores, seek for His mercy, His chord of love will be touched; He with the help of a posse of His devotees and by His message of love, can destroy or eradicate the deep-rooted prejudices and bigotry, irreligious fanaticism, malice and animosity, barbarous cruelties and ferocious murders amongst different religionists. Even then, if some minority of people obstinately behave as His naughty children, it might be necessary for Him to take undesirable drastic corrective measures and to send them to reformatories of future life after punishing them with dire calamities, as, plague, famine, earthquake, inundation and such visitations. So it behoves us to take precaution in time, and prostrate ourselves with penitence at His Feet and ask for forgiveness for our sins, for which we suffer, and pray for His mercy. Thus purified, let us embrace each other as brothers and do humane services for the society in which we live.

CHAPTER X

ROLES OF DIFFERENT BODIES IN THE NATIONAL EDUCATION

Until some constituted bodies, or educated persons, being actuated by benevolent spirit or patriotic feelings, devote their lives in educating the majority of the people in the right direction, there is little hope for national education. I have classified them into two groups;—

1st Group—Corporate Bodies.

2nd Group—Experts in Arts and Sciences.

1ST GROUP.—CORPORATE BODIES

(A) GOVERNMENT—Government is requested, (1) to increase educational grants; (2) to reform the present defective and prejudicial educational system; (3) to investigate into the expenditure of universities; (4) to open more vocational and technical schools; and (5) to spread education amongst the masses and the females. In the independent countries of Italy, Germany, Russia, Turkey, Persia and Japan some gifted persons have effected radical reformation in all departments of government and society in such a manner and in so short a time that the darkness of centuries was dispelled speedily. In comparison with such educational, social and political revolutions of those countries in course of 20 to 25 years only, the educational reformation of India is a trifling affair. If the Government encourages and helps the

people to disseminate knowledge throughout India, great progress is possible in much less time.

In this century university men are crying for more grants for the expansion of the universities, and so the Government is spending money for higher education,—as a mother takes more care for her crying children and feeds them with milk and honey. Although the number of university men is very few, they may be compared in the matter of education to the head of the nation possessing vocal instrument for clamouring; but 99 per cent of the people, who are steeped in ignorance and who form the trunk of the nation, as it were, have no organ to cry. These mute millions do not know the advantages of education. But Government, as their protector, and guardian, should try to educate these dumb millions. Decorating the heads with jewels, and dressing the body with dirty, torn clothing, are acts of incongruity and imprudence. Government should educate the masses as well as the chosen few according to their different capacities. A sensible man simultaneously takes care of his head, trunk, limbs, organs of sense and digestion. This reminds me of Esop's fable about the head and the stomach. Dissemination of higher education is desirable; but on account of small educational grants of Government and the straitened circumstances of the people, the only possible solution is to give sufficient scope and encouragement to the home students to exert themselves and pass higher examinations, like the college or the university students. In the Hand-book compiled by the Universities Bureau of the British Empire, 1918, I

find that, "unlike those of other countries, the universities of the United Kingdom have been, since their origin, independent of state control." But in India, as the Government gives substantial grants to some universities, it should see that there might not be extravagance or wastage of money and that the money is economically spent for the education of *useful* subjects.

Almost all the Universities of the United Kingdom and Ireland have Museums, because without them education is incomplete. University of Belfast, constituted in 1909, has a Museum of Natural History, Medicine, *Materia Medica*, Classical Archaeology and Sanitary Science; and has Laboratories in 11 subjects. Our Government should open Educational Museums for the schools, colleges and universities, as well as the public, by reducing the expenses of the existing State Museums which have little utility in the matter of general education. This point has been considered elaborately in the book "*Educational Museums at the Educational Centres of India.*"

Government, in conjunction with the District Boards and Municipalities, should help the schools, colleges and universities to possess sufficient play-grounds and make arrangements for physical games and plays, pastimes and recreations as far as possible under the present circumstances.

Note.—Those who feel interested in the subject are referred to the "Educational Pamphlet, No 27," published by the Board of Education of England ("Playground Movement in America"). In 1913 the total number of playgrounds in the New York City was 343. The city spent about Rs. 5,00,00,000 for playgrounds

alone in course of 10 years from 1902 to 1912. In that period Chicago spent about Re, 3,50,00,000 for this purpose. In the last 20 years the amounts spent for the playgrounds and their equipments may be enormous. In comparison with the amounts spent by the City Municipalities of India for the exercise of Indian students, the aforesaid sums are fabulous.

There are several other educational matters for the consideration of Government; but these cannot be dealt with in this little book.

(B) PROFESSORS AND TEACHERS—Unless they encourage the pupils by the example of their living the life of self-sacrifice, the pupils cannot be expected to act and move with the spirit of self-sacrifice. The noble examples of Gokhale, Paranjape and other Professors of Ferguson College of Poona, serving the College for life with a sustenance allowance, should be followed at least by some professors who can afford to do so. A dozen of such exemplary professors is calculated to elevate the noble ideal of the pupils in plain living and high thinking, which the bestowal of high academic degrees cannot accomplish. India now wants more self-sacrificing men in the education line. Taking into consideration the present expensive living, let the professors be satisfied with a pay which is 5 or 6 times of the sustenance allowance of the Ferguson College professors, in accordance with the needs of the present time. The professors and teachers should leave off smoking and the use of all kinds of intoxicants, and to publicly promise to totally abstain from them. The greatest wastage of India's money is smoking and use of intoxicants, and this habit is one of the chief causes

of India's deplorable state. This promise will encourage the young students to make similar promises. There should be a strict rule and order in the schools, colleges and universities that students must not smoke or drink; —they should sign pledges and keep up their promise. If this plain and simple rule is not exacted with force, there is little hope of the regeneration of India in the near future. All students, without exception, should be instructed in the evil effects of smoking and intoxicants. This knowledge is not less important than bookish knowledge on other different subjects. The younger healthy teachers should learn the art of scouting, form bands of boy-scouts and teach and lead them, by themselves becoming scout-masters. By this means the boys will improve their health, form good habits and do social service. Without hundreds of such scout-masters directing thousands of boy-scouts, the present hope of national uplift is distant. Let me repeat here the time-honoured idea,—that precepts without examples cannot generally help in the formation of character.

Firstly.—The universities should frame their codes in such a manner that all persons might be encouraged in acquiring higher knowledge either solely through their own exertions, or by attending lectures or tutorials. If the home-educated students are ready to compete with the tutored students, the former should not be discouraged. Let the principles of the universities be noble and liberal in this respect.

Secondly.—The questions should be so set that answers of the examinees might show that they have developed

their thinking faculty. This is one of the indirect methods of deprecating cramming system and stuffing the memory with unnecessary facts and events. This is one of the means of saving the time and energy of the students spent in memorizing.

Thirdly.—The period of 6 years in getting the degrees of Bachelor and Master in Pass and Honours courses should be reduced to 4 years, by fixing one subject instead of 3 or 4 subjects, in the curriculum. This reform will give the pupils good opportunity to specialize in one subject.

(C) GRADUATES AND THEIR GUARDIANS—

If the guardians are well-to-do people, they should try to engage their wards in some business or manufactory training after securing matric degree or F. A. degree. But if the boys are willing to win academical degrees or increase their knowledge in universities, they should be encouraged to fulfil their desire. The middle-class guardians, who can ill afford to send their boys to the universities, should send, jointly with other guardians, repeated petitions to Government and the universities to change their present stringent rules so that their boys may be allowed to appear at the examinations by home-study. They should also send copies of those petitions to the newspapers and journals for publication. But if, even then, the universities do not change the old prejudicial rule, the boys should try to acquire some technical knowledge in some such schools.

Home-educated graduates should sign the following Declaration and publish it; and send copies of it to

Universities, Education authorities of Government and to the editors of newspapers and journals.

We have obtained the following degrees of graduates from the Universities mentioned against our names in the years so and so by home-study only, without feeling any inconvenience for not attending university lectures. We are now employed in the services noted below.

1. Names and addresses
2. Names of Universities
3. Years of obtaining degrees.
4. Present occupation

This action on the part of the home-graduates might engender pity of the members of the universities to change their arbitrary rules of monopoly of university degrees for their own students. This kind of monopoly curbs the ambition and liberty of the aspirants for academic degrees, damping the spirit of unfortunate boys who took their birth on account of their inauspicious stars amongst parents who cannot spend Rs. 40 or 50 per month for each boy by sending them to a college or university. It is possible that by repeated petitions of this kind, the road to university degrees might be made smooth for future home-students.

* Graduates after finishing their university career, might try to enter service, but failing in their attempt, they should engage themselves for one year at least in social service. Young graduates and under-graduates, who are without employment, should gladly take upon themselves the task of instructing the masses. Without such self-sacrificing work, 95 per cent. of illiteracy cannot be removed in a century, or half a century. This kind of public service has great educative value ; —it will equip

them in fighting the battle of life, will elevate their mind, purify their heart, and will confer internal joy.

(D) LEADERS OF SOCIETY.—Excepting those councillors whose sole object is to please the Government or to earn name and fame, the self-sacrificing members of Councils who mean to do some good to the people; and the leaders of society who have imposed upon themselves the task of doing public works of utility, are requested to deliberately think of the enormous losses of the people on account of their using intoxicants and tobacco. By doing so, they will come to the conclusion that these habits should be stopped by education and persuasion. If they can thus save something like 75 crores of rupees, which is the yearly loss of the people, by a continuous exertion of a few years, they would achieve a great good to the country. They should try their utmost to induce the educational authorities to teach the students the evil effects of intoxicants and tobacco. They themselves should leave off drinking and smoking (if they have contracted the bad habit,) and thereby set good example to their children, the students of schools and colleges and the people in general. They should repeatedly ask the Government to prohibit the sale of intoxicants by Local Option,—even now the overwhelming majority of the people will vote for prohibition. They should also pass resolutions to the effect and should send representations to Government for increasing the educational grants. When such an able body as the British Parliament could not abolish the abominable traffic in drink in course of 100 years, because the people are so much enslaved by

the habit, we can imagine the pitiable fate of the poor Indian people, who are under the yoke of a foreign nation, if they are tied down by the confirmed habit of using intoxicants and tobacco. Poverty and misery have not awakened the ignorant masses! The leaders can do a great deal in the matter, if they take up this self-sacrificing service in right earnest. Non-co-operation between the people and the government might be possible, or might be successful, where there is unity amongst the people, who have developed the capacity and power of governing, and stupendous strength of resistance upto death. Where there is lack of these qualifications, the leaders have no other alternative but to devote their lives for educating the people in the 3 R's and in arts and industries, and warning them against the evils of drinking and smoking, bad customs, ruinous litigations, hatred amongst different religionists and unhygienic and insanitary living, etc., by means of propaganda work, teaching, lectures, publications, picture-shows, etc. If they are unable, incapable or unwilling to do these things, the hope of the uplift of the nation is a mere dream.

(E) PARENTS AND GUARDIANS OF STUDENTS. —The generality of the people think that if the parents properly nourish their children, look after their health, put them in schools and marry them in time, their duties are fully or wellnigh discharged. But such is not the case. Let me give an explanation for venturing this remark. We know it well, that an agriculturist regularly tills the soil, manures it, procures the best seeds he can, scatters them in proper season and waters the soil regularly,

before expecting to reap a good crop. A young man should marry a healthy girl when he is himself fully developed, he should know the rules of conception and follow them. In the *Makábhárata* it is related that at the time of conception the mother of Dhritaráshtra closed her eyes out of terror and the result was that the child was born blind, and Páandu became bluish coloured on account of his mother being influenced by fear at the conception-time. In these days medical men and research scholars have found out by close investigation into the births of progenies of birds, beasts and human beings for 3 or 4 generations that lepers generally give birth to lepers; the syphilitics beget syphilitics or blind children; sons of drunkards have great tendency for drinks; children of phthisis patients are attacked by the same disease; sons of lunatics and imbeciles inherit such defects, and so on. These investigators evolved the science of Eugenics. Parents suffering from special diseases should not procreate children, because they are generally attacked with the diseases of the parents and thus become burden to society. The cost of educating a blind or a deaf child is 7 to 10 times the cost of an ordinary child. If the married couple have no means to support even themselves, they may rather adopt the birth-control measures. Hence married or grown-up students should learn the general rules of eugenics and birth-control, and act accordingly. I think few persons know the secret of being blessed with children who have moral inclination or religious tendency. The seeds after being sown in the soil, have inherent energy in them to germinate and gradually grow into trees; — but such is not exactly the

case with the sperm of man entering into the ovum of the womb. They get nourishment from the blood of the the mother and develop into full-sized foetus in the womb in course of 9 months or so. That foetus is nothing but an incomplete physical habitation of the soul or spirit, which is watching the development of the foetus and which takes full possession of it just after the birth. The foetus in the womb of the mother has no independent existence, but is like a part of her body. After birth, the child becomes a separate ego; and throughout life the force of the spirit-entity develops and sustains the body and mind of the man. Millions of spirits are hovering and inhabiting in the region of spirits; and are seeking opportunities to get into bodies of their own selection, so that their unsatisfied desires of previous births might be fulfilled by taking births through the medium of those selected bodies. If the parents lead moral and religious life and just before conception humbly and devoutly offer prayers to God for being blessed with the birth of a good spirit,—it selects some uterine body and in proper time comes out of the womb. During these prenatal nine months, the mother should observe certain rules for keeping her body and mind pure and during delivery special care should be taken for the safety of the baby. Although the baby has five senses, they have not as yet become fit for service. The mother should keep the five sense-organs in good order, and develop the sense of hearing by fillips or bells, the sense of vision by showing lamp or moon, the sense of touch by warm or cold objects, and so on. The parents should study child-hygiene and

mental psychology of the children, and behave with them and educate them accordingly. On account of the want of knowledge of these subjects, the infant death-rate of India is highest in comparison with the death-rates of other civilised countries. Mothers and even fathers are expected to have some knowledge of midwifery, childwelfare, and rearing up and education of children.*

(F) MEDICAL MEN—They have special and important duties in national education, because their advice regarding health and sanitation of the people carries great weight. They should publish their declarations against the use of tobacco and intoxicants, showing their evil effects, in English and vernaculars. Medical practitioners of all schools, namely, allopathy, homeopathy, ayurveda,

* "Of all living beings man is by far the most helpless at birth. He cannot even suck the breast. In him the instinct is at its minimum. For him, more than for any other animal, prolonged and elaborate tuition is necessary; but so vast is his memory, and so great is his power of utilising its stored up experience, that in later life he is beyond comparison the most capable of the inhabitants of the earth. But how forlorn and helpless would be a man reared from infancy in a dark cell out of sight and sound of his kind, and then turned into a world where his *experienced* fellows struggle for existence!" —"*Harmsworth History of the World*," Vol I, p. 110.

Emperor Akbar kept some boys in a secluded place, where they were not allowed to come into contact with any man, for some years. When they were set free in the wide world they could not speak like other boys, but uttered some sounds like animals and in every way behaved as such.

unani, etc. should join in this movement. On all suitable occasions they should personally advise the patients to abstain from these things. They themselves should leave off the habit of drinking and smoking. They should explain the bad consequences of lust, prostitution, and secret vices, and the preventive measures against general and contagious diseases. They should publish popular books on health and hygiene, and make experiments on the properties of common foods and indigenous drugs; and publish their researches for the people and prepare their medicines, as far as practicable, from Indian herbs, metals and poisons. Allopaths and homeopaths should try to use country-made medicines and thus save 4 or 5 crores of Rupees of the people every year, which they spend in importing foreign medicines worth about 2 crores of Rupees and in getting them dispensed in dispensaries and hospitals of India at a cost of 2 or 3 crores of Rupees. It is needless to elongate this paragraph further by citing their other duties; it is sufficient to say that they should think themselves as the responsible custodians of public health. It is their honourable duty to teach the people how to keep their body healthy, and their clothings and habitations neat and clean. They should advise the villagers how to keep their villages in sanitary condition; publish popular books, according to different systems as mentioned in pages 110 and 111 of this book, on health and hygiene; treatment of accidents and common diseases, in vernaculars; and explain these subjects to the people.

Medical men should advise poor Indians to adopt birth-control measures. Please read the following quotations

and think over it :—*Health Problem and Birth Control*
--“India with her present resources is over-populated. 95 per cent of the Indian population exists even more miserably than cows, horses or dogs in Europe or America. 95 per cent of the Indian population has not got even an elementary knowledge of public health, infectious or communicable diseases. Finance as well as standard of education to utilise the finance to the best interest of the country's health and sanitation, is the most vital matter. At present such education is totally lacking”. ... The high rate of mortality can be brought down and the standard of health improved only by raising the standard of living.” ... “Thousands of women become ugly-looking, neurotic drudges and tubercular, the husbands find life converted into a treadmill, and the children, for want of proper nutrition and education, get to be pot-bellied, scrofulous, rickety, adenoid and develop undisciplined and irritative nerves. Many of these children die; others who survive are the present sons of India. They are without any ambition, without any initiative or sportive spirit, they are jealous, sensitive and lacking in vitality.” ... “To speak plainly, among other solutions of this misery and heavy mortality, control of birth and regulating the family, is, to my opinion, the only method which is feasible, quick and easily workable”. “Chronic poverty demoralises character. No education, whether hygienic or moral, can get a hold on such character. Due to this demoralising influence the people have lost altogether their self-confidence and self-control. All avenues of enjoyment, pleasure and happiness seem to have been

shut to them. The only way left is the cheap sexual satisfaction which, therefore, has been carried to such an extent that the spiritual and ethical significance of sex has been altogether sacrificed to the animal instinct, and irresponsible procreation is the result. In such circumstances moral teaching may but help a microscopic fraction of the enormous problem, but the only practical solution, to an unbiassed man of commonsense and judgement, is to stop spawning. It is thousand times better to bring into existence one man or none at all than to increase half a dozen rickety animals with human figure." Dr. H., Ghosh, M.B., in the Health Number of the *Calcutta Municipal Gazette*, 30th March 1935.

(G) LAWYERS—One of the potent causes of the loss of money and energy, and sometimes, ruin of families, is litigation. Only simpletons might dream that judgments are delivered after weighing the pros and cons as is done in sensitive laboratory balances; but the lawyers themselves and the intelligent people know how justice is administered in law-courts. There is no use of dilating on this matter. You will find miscarriage of justice, falsity of evidence, predilections of judges, prevalence of partiality and many other abuses and irregularities of law-courts. If the above expressions are true, then the duties of the lawyers towards the people are clear enough. They should try once, twice and thrice to induce the litigants to settle their disputes amicably as far as possible. Let the pleaders or advocates take their fees for making amicable settlements. Judges can advise the litigants to settle

disputes outside the court. If still the litigants are obstinate enough to prolong litigation, let them do so. Although this idea of discharge of one's duty is utopian, yet there is no harm to present a noble ideal of duty before the lawyers. Although few people follow the common rules of morality, yet those rules have been published in hundreds of books for centuries. As the lawyers are generally clear-headed and are able to consider different phases of a case, they should draw up a reformed educational scheme for India. The lawyers should be instrumental in the enactments or amendments of codes or laws relating to mass-education, female-education, compulsory child-education, polygamy, polyandry, selling of girls, wives or females, prohibition of the manufacture and sale of intoxicants, immoral traffic, prostitution, widow marriage, horse-race gambling, neglect of children, etc., etc

(H) PUBLIC—"None lives but who feels for the poor, the ignorant, the down-trodden. Feel till the heart stops and the brain reels and you think you go mad. Then will come help, power and indomitable energy".—*Vivekánanda*.

Unless and until all the cells of our body are in good and healthy condition, the body cannot be said to be perfectly healthy. Similarly, the people of a country are like cells of the nation. As 95 percent of the people of India are illiterate, and the vast majority is steeped in ignorance and poverty and are passing their lives under the influence of animal desires and propensities, the nation cannot raise up its head above the quagmire. Until the people develop in their mind a strong desire to improve their condition,

and take proper actions, and daily offer humble prayers at the Feet of the Supreme Father for extricating them from the present miserable condition, they shall have to suffer for an indefinite period. The intense desire to set ourselves free from preventible misery has a tremendous motive power. It is on account of the will of God, Who is the infinite ocean of spirituality, that this vast universe was evolved out of Himself, and we being His tiny rays of spirit, have been able to form our individual minds and bodies out of His materials in the mental and physical planes, simply to enjoy the subjective and objective pleasures of the world. If we intensely desire to improve our material condition and take all the available measures to achieve our ends, our all-powerful Father will help us in our attempt. If we desire worldly objects and pray for them, Father will give them; if we want mental happiness and pray for it, we shall get it; and if our spirit hankers for the spiritual bliss at His Feet, He will fulfil our desire. Poor parents cannot meet the ordinary necessities of their children. But God has inexhaustible store of material objects, mental happiness and spiritual ecstasy to give to His children. First, we should make ourselves fit recipients of the transitory physical pleasures, or changeable mental happiness, or eternal spiritual bliss; then beg them of our Father in a supplicating mood; and they will be vouchsafed unto us. God has implanted in the mind of men of animal nature, desire for fleeting joys; in the mind of moral men, desire for pure mental happiness; and in the spirit entity of religious men, desire for eternal

disputes outside the court. If still the litigants are obstinate enough to prolong litigation, let them do so. Although this idea of discharge of one's duty is utopian, yet there is no harm to present a noble ideal of duty before the lawyers. Although few people follow the common rules of morality, yet those rules have been published in hundreds of books for centuries. As the lawyers are generally clear-headed and are able to consider different phases of a case, they should draw up a reformed educational scheme for India. The lawyers should be instrumental in the enactments or amendments of codes or laws relating to mass-education, female-education, compulsory child-education, polygamy, polyandry, selling of girls, wives or females, prohibition of the manufacture and sale of intoxicants, immoral traffic, prostitution, widow marriage, horse-race gambling, neglect of children, etc., etc

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and take proper actions, and daily offer humble prayers at the Feet of the Supreme Father for extricating them from the present miserable condition, they shall have to suffer for an indefinite period. The intense desire to set ourselves free from preventible misery has a tremendous motive power. It is on account of the will of God, Who is the infinite ocean of spirituality, that this vast universe was evolved out of Himself, and we being His tiny rays of spirit, have been able to form our individual minds and bodies out of His materials in the mental and physical planes, simply to enjoy the subjective and objective pleasures of the world. If we intensely desire to improve our material condition and take all the available measures to achieve our ends, our all-powerful Father will help us in our attempt. If we desire worldly objects and pray for them, Father will give them; if we want mental happiness and pray for it, we shall get it; and if our spirit hankers for the spiritual bliss at His Feet, He will fulfil our desire. Poor parents cannot meet the ordinary necessities of their children. But God has inexhaustible store of material objects, mental happiness and spiritual ecstasy to give to His children. First, we should make ourselves fit recipients of the transitory physical pleasures, or changeable mental happiness, or eternal spiritual bliss; then beg them of our Father in a supplicating mood; and they will be vouchsafed unto us. God has implanted in the mind of men of animal nature, desire for fleeting joys; in the mind of moral men, desire for pure mental happiness; and in the spirit entity of religious men, desire for eternal

enjoyment of spiritual union with Him ; and He has made every provision to fulfil the above three kinds of desire. I have laid so much stress on prayer and supplication, because ungodly nations have fallen and been ruined for their haughtiness and aggrandizement. We should never forget this lesson from the histories of proud, haughty and cruel kings and aggrandizing nations.

Recently an Indian journalist visited Japan for studying secrets of their prosperity and has enumerated some of the secrets he discovered ;—These are (1) patriotism, (2) love for the Japanese language, (3) national discipline, (4) good behaviour and nature, (5) compulsory elementary education, (6) spirit of enterprise, (7) capacity for imitation, (8) mutual help, (9) honest and competent workmen, (10) cheap electricity, (11) cheapest transport, (12) sympathising Government, (13) bounties of nature. Although the Japanese are followers of Shintoism (it is their oldest religion and the royal family are its adherents) ; Buddhism, Christianity, Atheism, exist even amongst the different members of the same family, yet there is no animosity between them, as is the case here between the Hindus and the Mohamedans, Brahmins and men of lower castes, and between men of different sects and families. Improvement of their country is their prime object. There are thrilling and soul-inspiring instances of the Japanese sacrificing their lives of the sake of their country. The educated Indians should read them and get inspiration.

I feel tempted to quote a few sentences from the description of the Japanese given by Dr. D. N. Maitra,

who experienced "innate and invariable charm and courtesy of the Japanese people. * * The exquisite charm and artistic simplicity of the Japanese homes were most striking as a remarkable contrast to the loaded decorations of other places and cultures. Art appears to pervade everything that the Japanese would touch; it is ingrained in their nature and it is almost inimitable. Wherever I had such a chance I found how lovably courteous they were. Their character is distinguished by a remarkable self-discipline, intense patriotism, and religious earnestness. They use no vile or abusive language."—*Calcutta Municipal Gazette*, 24 Nov. 1934.

The Japanese people rose into prominence amongst the nations of the world, on account of their patriotism, industry and benign Government. The spirit of patriotism and independence of the people of India have been subdued and crushed in course of centuries by foreign rule,—their industry has been killed, and the majority of the people have been reduced to abject poverty. If the rulers show genuine sympathy for them and consider them as younger brothers, and properly educate them in arts, sciences, and manufactures,—their industries can be revived and they can materially prosper. Excepting the tentative efforts of a few persons here and there, the mass of the people is plunged in deep ignorance. On account of the very high percentage of literacy of the people of Italy, Germany, Russia, Turkey and Japan, their industrial habits, their patriotic feeling, and sympathetic help from the Governments, they have risen into eminence under the guidance of Mussolini, Hitler,

Kemal Pasha and Lenin. But it is very, very difficult to awaken a slumbering nation;—ten thousand drums and bugles would fail to do so. But if 10,000 young men or patriots, under the guidance of say 100 leaders, work for some years, the latent spirit of the people might be aroused.

Let me mention here that there is another undesirable method of awakening the people;—may the merciful God spare the rod of chastisement for our sins. By that method the village masters teach naughty boys by caning. If the people transgress the laws of nature, if they do not change their evil customs and habits, if they do not cultivate fellow-feeling in their heart, and if they do not dispel ignorance by spreading knowledge amongst the masses, they shall have to suffer miseries and they cannot rise as a nation. The laws of Nature have already punished the people of India for centuries for their sins of neglecting education, harbouring hatred against different castes and religionists, fostering evil customs, neglecting the rules of sanitation, want of patriotism, etc. by sending plundering kings; plague, pestilence, earthquake, diseases, high mortality and short life, etc. If these visitations are not considered as sufficient punishment, the strict, just and corrective laws of Nature might operate with renewed force, and melt down the haughtiness and animosity of refractory persons in its big furnace and throw them out as slag. No human force can hinder the operation of these laws ! So the people should bow down before the Lord and follow His laws in time !

2nd Group.—Experts in Arts and Sciences

'We are apt to imagine that, because we possess many libraries, institutes, museums, we are making great progress. But such facilities may as often be a hinderance as a help to individual self-culture of the highest kind. The possession of mere materials of knowledge is something very different from wisdom and understanding, which are reached through a higher kind of discipline than that of reading. How much of our reading is but the indulgence of a sort of dram-drinking, imparting a grateful excitement for the moment, without the slightest effect in improving and enriching the mind or building up the character.'
—"*Self Help*."

Experts in arts and sciences include those who have regularly studied under them. The former should guide the latter in imparting education to the masses. In this chapter I have submitted some suggestions for making sacrifices for the regeneration of the nation, because I think that no achievement of an important nature is possible without sacrifice. The poor people of India are paying crores of rupees year after year at a sacrifice for the maintenance of the army (which absorbs the major portion of Government income); and the paid soldiers in return give up their lives in times of war; and the volunteers also give up their lives as sacrifice. Without sacrifice on the part of the mother, a child cannot be nurtured. No use of citing more examples for proving that without sacrifice, no good result is possible. Sacrifice is the true *homa* or *yajna*, which purifies the body and the mind of the performer, his relations and friends, and

which gives more facilities for future improvements and propitiates the gods. If the educated persons perform this *yajna*, India's regeneration is sure and certain. Let me point out one thing here. Although in imparting education to the masses, they need be taught to read and write, yet it is possible to educate the people to some extent for practical purposes, even if they are illiterate and unable to study the technicalities and theories of arts and sciences;—but most persons do not know this secret. There is no cause of despair on account of illiteracy.

Some graduates and experts in any science and manufactures, trade or business should try to combine themselves into a company and open industries, or they can emigrate into a foreign country to do some business or trade there. But as a vast majority of them are without any employment, instead of idling away their time they should employ their time and energy for the good of the community. In this chapter I intend to describe certain duties or works of scholars, scientists and technical experts. Let the public, being actuated by sympathy for the people, calmly consider these suggestions. I have a firm conviction that for the formation and progress of a nation, the existing schools, colleges and universities alone are not sufficient; but all sorts of experts in arts and sciences must play their parts in different kinds of schools. Brief sketches of the duties of some experts are given here.

(I) LINGUISTS AND PHILOLOGISTS.—Although politically India is divided into several Provinces, geographically it is a vast country. I think

that it is admitted by all that by the adoption of one common language throughout India, there will be a great facility for the exchange of ideas of the inhabitants of different Provinces and for their unification. There are some reasons for the adoption of the Hindi alphabet and language as national alphabet and language. Firstly, Sanskrit, Nagri, Marhatti, Bengali and Gujrati have almost similar alphabets, which represent all human voices in a scientific manner; 2ndly, one third of the entire population, that is, about 12 crore persons of the Northern India use Hindi language in general conversation; 3rdly, three-fourth of the whole population are Hindus, and about one-fourth are Mahomedans, so there is little chance of adopting Urdu alphabet; 4thly, the English language has little chance to be the national language, for it requires 6 or 7 years to learn it, and one in one thousand persons knows English; 5thly, new words in science, arts and philosophy can be coined from the Sanskrit language. As Urdu is the Court language in U.P., the people of the Province will use Urdu language and alphabet whenever necessary.

For several years some literary persons are thinking of forming a common language with common alphabet for different Provinces of India. The Hindus generally are in favour of Devanagari character; and the Musalmans are inclined towards Urdu character. But as yet they have not come to a decision. The countries of Europe have formed and adopted a common language with a few choice words using the Roman alphabet A to Z. The name of the language is *Esperanto*, which can be learned in 2 or 3 months.

Firstly—As the English language is the Court language and is extensively used in India, practically it is gradually becoming a common language throughout India. But there is a very great difficulty in mastering it. Even the graduates feel this difficulty. It is a foreign language, its vocabulary is vast, its grammar is very intricate, its spellings are arbitrary, pronunciations of some words are curious and its idioms cannot be easily mastered. It is too much to expect correct and idiomatic English from undergraduates in general, whose principal aim is to pass in other subjects also. In order to solve these difficulties, but at the same time to educate a large number of persons in the language, a Committee of Graduates in English, Philology and vernaculars should form a short English language by selecting a limited number of important words as are often used for the expression of common ideas. In *Webster's New Ideal Dictionary* you will find lists of 'Every Day Words and Phrases' in English, French, German and Italian languages,—the total number of such words being about 3,000; these words and phrases have been systematically classified under different heads, such as, money, numerals, time, weights and measures, the weather, the human body, meals, colours, furniture, tools, professions, relations, animals, arts, games, vehicles, trees, metals, verbs, familiar phrases, etc. In this manner the Dictionary has given a great facility to the travellers of England and English-knowing persons of the world to express their ideas when visiting France, Germany or Italy. Similar advantages are given to the travellers of the other three

countries or persons knowing French, German or Italian languages. The philologists have to find out their equivalents in one dozen principal vernaculars of India, such as, Hindi, Bengali, Tamil, Telugu, Gujrati, Canarese, Urdu, Behari, Uria, Malayalam, Marhatti, Gurmukhi and publish books on the subject. I have given only a hint and a broad outline, without entering into details. The trouble and expense of publishing these books embracing English and 12 vernaculars in groups of two languages, English and Hindi, English and Bengali, Hindi and Bengali, and so on, will be compensated by the convenience, which will be enjoyed by the inhabitants of different Provinces during conversation or in writing ordinary letters. The aforesaid Dictionary has devoted 125 pages in printing "Everyday Words and Phrases" of the four languages in 4 columns. So half the number of pages would suffice, if only English and a vernacular, or two vernaculars are dealt with.

Secondly—Regarding the problem of introducing any vernacular language as a common language with one common character throughout India, the above Committee should study the matter and come to a decision.

Thirdly—That Committee should also publish a series of 3 or 4 books in different vernaculars of India explaining the grammar of the English language, giving meanings of common words and phrases in the vernaculars and translating sentences, so that intelligent persons can learn the English language to some extent without going to schools or without the help of teachers. About 30 years ago in Bengal, two such books of the names of

Rājabhāshā and *Ingrāji Sikshā* (compiled by me) were sold by thousands:—in those books elementary English language was explained in Bengali. Afterwards a Hindi *Rājabhāshā* was published and was extensively sold. There is a great demand for such books in other principal vernaculars of India.

(J) HISTORIANS should write and publish the following books in English and vernaculars:—

1st—A short History of India and a short History of England,—mentioning only the principal events, decisive battles, changes of dynasties, deeds of cruelty, works of benefaction and short narratives of famous kings.

2nd—A short History of the world touching the principal events.

3rd—History of the present progress of the United States of America, Japan, Russia, Italy, Turkey, China and Persia; giving a short narrative of the great war.

4th—Present Administration of India by the British Government, showing its benefits and evils.

5th—Short descriptions of the important discoveries and inventions of the 19th and 20th centuries, especially those which have revolutionised the arts, trades and manufactures.

6th—Important statistics of India in English and some vernaculars, on population, literacy, mortality, health, meteorology, races, religions, etc.

7th—Interesting and instructive narratives of kings, historical persons, principal events of India, England, and other countries, modern or ancient.

(K) PHILOSOPHERS.—As a good mathematician

can teach M. A. or matric students, so an expert philosopher can acquaint graduates or persons of ordinary intelligence with the high ideas of philosophy briefly in one month; and in detail in course of a year. As a book of 100 pages is sufficient for a short history of India; and a book of 1000 to 10,000 pages is necessary for a higher course of history; similarly elementary treatise on philosophy should be written in popular language in English or vernaculars containing the cream of the high thoughts of the great philosophers of the East and West, ancient and modern, in the light of the modern science, in accordance with the present time, needs and circumstances of India. This book should contain the thrilling incidents and inhuman persecutions of Socrates, Aristotle, Plato, Demosthenis, Spinoza, Voltaires, and other philosophers, and short anecdotes of their life. The five branches of philosophy:—(a) Logic can be taught by examples of sentences without technicalities; (b) Aesthetics, by some pictures and works of fine arts; (c) Ethics by elementary books on morality and social science; (d) Politics and (e) Metaphysics by elementary books on the subjects. If necessary, such books should be published in vernaculars or English.

By the study of the idealistic theory of Des Cartes, Hume and other European philosophers, some persons form a notion that the objects around us have no existence, but they only exist in our ideas; yet in lucid moments and normal state of mind they cannot drive away their innate belief in the existence of the objective world. Some students of Vedānta philosophy harbour a notion

that the objective world and subjective mind are mere illusions and have no existence; and that Brahma is the only thing that exists, although their mind is quite incompetent to know Brahma, because mind cannot know *Ātmā* or *Paramātmā*. They have the audacity to think themselves as Brahma, without considering for a moment that they are nothing more than mental egos. This delusion has produced in India some idlers in thought. In fact (a) *Paramātmā* (universal spirit) and *Ātmā* (individual spirits, being emanations of *Paramātmā*) have eternal, unchangable existence; (b) subtle mind and (c) gross matter undergo changes of forms. The Supreme Spirit is the all-pervading, all-powerful, all-intelligent, all-blissful and all-refulgent existence; and all other things, mental and physical, exist in Him, or rather, His *Sakti* (power) pervades everything. Godless philosophy is a dangerous and mischievous teaching for the society. But true wisdom lies in the belief of Supreme God, and devotion to Him as the basis of morality and religion. Disbelief in the existence of God and the cycle of the births and rebirths; and belief in the gradual development and progress of the mental and physical world without intelligent Spirit-force, are dangerous ideas, for they snap social and moral ties and love for humanity.

(L) ECONOMISTS

1. Principles of Economics.—As the subject of economics has recently developed and the economic condition of India is getting more and more deplorable, allow me to touch some salient points of the subject.

I have quoted several paragraphs from the book, "The Economics of Everyday Life" in 2 volumes. Definition and explanation:—"The effort made by man to procure the satisfaction of their wants is called *economic effort*; and *Economics* deals with the *causes*, the *nature* and the *results* of such effort. In other words man's activity in supplying the needs of himself and his family is the subject of economics." A man has various social activities in various capacities, as a *social being*, as a *householder*, as a *neighbour* and as a *subject* of a particular country, nation or government.

"In the first place, there are certain general principles underlying man's thought and action in all stages of social development, and in every relation of life. The study of these is called *sociology*.

Secondly, there are certain moral considerations and principles, which affect his conduct and which constitute a standard of right and wrong. The study of these is called *ethics*.

Thirdly, there are certain laws and regulations imposed on a man by the community or State to which he belongs. Some things are allowed to him, others are forbidden. The study of these limitations placed on his freedom of action is called *law* or *jurisprudence*.

Fourthly, in every human society there arises the need for organization, for government. The governing body of the State exercises control over the individual members and the individual members render it obedience. The study of the principles of government and of the rela-

tions existing between the subject and the State is called *political science* or *politics*.

Lastly, a considerable portion of man's social activity is devoted to the satisfaction of his wants. The study of man's actions in getting and spending his income is called *political economy* or *economics*.

Four stages of Economic Effort.—Stage I—The effort is *direct*. It is devoted to the production of the things desired. Stage II—The effort is *indirect*. It is devoted to production of something which can be *exchanged* for the thing desired. Stage III—The effort is *collective* and *indirect*: The produce resulting from the effort of a group is *exchanged* for the things desired, and these are *distributed* among the members of the group. Stage IV—The effort is *collective* and *doubly indirect*. The produce resulting from the effort of the group is *exchanged* first for the money or its equivalent, and this when *distributed* is again *exchanged* for things that will satisfy individual wants.

Wealth.—"Everything is wealth to us which has power to satisfy our wants and which cannot be obtained without effort. Wealth which satisfies wants consists of material goods (commodities); wealth which requires effort consists of immaterial goods (services). Wants leading to efforts require 1st natural forces, 2nd personal activity and 3rd artificial aids,—all these result in satisfaction.

The requirements for wealth may be classified under two heads;—A. Forms of Human Activity and B. External Aids. A. Human activity is of 3 kinds;—(1) La-

bour, (2) Organization and Enterprise. B. External Aids are of two kinds;—(1) Gifts of Nature and (2) Capital. Gifts of Nature are as various as they are widespread. Nature provides:—(1) The soil and all its properties. (2) Vast stores of *mineral wealth*. (3) The *air* we breathe (4) The *climatic conditions* which assist or hinder man's economic efforts. (5) The various forms of *animal and vegetable* life, each endowed with power of reproduction (6) Forces of various kinds, such as light and heat, wind and water, steam and electricity.

Let us see how productive effort assists fresh productive effort:—"Productive effort results in wealth, wealth is either consumed or saved; saved wealth is employed as capital; capital assists fresh productive effort."

Power to work is a question of *fitness*. This fitness is of four kinds:—(1) Physical fitness, (2) Technical fitness, (3) Intellectual fitness, (4) Moral fitness, which is summed up in the word "character." Early training; religious and social influences help to form character. *Will to work* may be a consequence of a man's energy and force of character.

The three characteristic features of economic life of ours are:—(1) That we satisfy our own needs by satisfying the needs of others. (2) That the service we render to others brings us a money income. (3) That it is by spending this money income that our wants are actually satisfied.

The Relation of consumption to (a) Productive effort and (b) Wealth is shown thus:—Desire to consume is

cause of productive effort; Productive effort results in wealth; Wealth only exists for satisfaction of wants; Satisfaction of wants is obtained through consumption.

Different kinds of *Wants*:—*Urgency*. Food, clothing, shelter are the urgent wants. *Attractiveness*. What we purchase is very much a question of individual tastes, of personal likes and dislikes, of temperament, interests and training. *Durability*, examples,—satisfaction derived from the consumption of food or drink lasts only a very short time, while that derived from houses or furniture, clothes or jewellery, lasts quite a long time.

Necessaries, Comforts and Luxuries—It is impossible to lay down any hard and fast rule as to what are necessaries, comforts or luxuries. A rough idea of them is given below:—

Necessaries	for sustaining life for mere subsistence for minimum,	<i>i.e.</i> , plain wholesome food, decent clothing, healthy home.
Comforts	for fuller life, for more wholesome existence, for a decent stan- dard of living	<i>i.e.</i> , better food, clothes and housing with re- creation and amuse- ment.
Luxuries	for refinements of life, for expensive habits and amusements, for a more elaborate mode of living.	<i>i.e.</i> , costly motor cars, ornaments, table de- licacies, etc., together with the indulgence of expensive tastes in art, literature and travel.

Saving and Spending.—Saving in the economical sense is not the same as hoarding. Saving means turning wealth into capital by deliberately applying it to productive purposes instead of to the immediate satisfaction of wants or in other words to consumption purposes. Three principal motives for saving are :—

(1) *Duty* to set aside part of income for the support of dependants as in insurance banks. (2) *Prudence*,—illness, accidents, trade depression, loss of occupation, may cause the income to diminish or even to cease altogether. Providing for old age and for the period of retirement from active work is another form of prudence. (3) *Economic advantage*—saving adds to capital and it adds also to the future income of the person who saves. "Saving adds to capital, capital yields interest, interest adds to income, income is source to saving."

Spending for luxuries is justifiable under certain circumstances ; (1) when the expenditure gives employment to many and is generally good for trade ; when the demand for articles of luxury calls for greater refinement and greater skill on the part of those who produce them ; (2) luxurious expenditure transfers wealth to those who will make a better and more socially advantageous use of it ; (3) when the desire for luxury is a mark of progress and at the same time a stimulus to invention, to productive improvement, and to fuller exercise to capacity.

I have omitted the problems of the economical life of the State or Government or Trade Unions, because there are such complications in these matters which the untrained persons cannot easily understand.

Now I lay before the experts in the science and practical side of economics, a very important and momentous question for deciding whether the production and consumption of intoxicating drinks and drugs and tobacco in India is criminal waste of public money, energy and time, or not. They are worse than luxuries explained above. The articles of luxury have no ruinous consequences. But these articles deteriorate or ruin health and wealth, life and family of the smokers and drinkers. Every year some 50 to 75 crores of rupees of the poor people of India are wasted. This is national waste. Government is morally and in duty bound to stop the manufacture and sale of these poisonous and intoxicating articles. The people should desist from manufacturing and consuming these things. The educated men, who have patriotic feelings in them, should dissuade the people from drinking and smoking. If they are addicted to these evil habits, they should first reform themselves.

2. Rochdale Society.—Let me give a short account of progress of a co-operative society of England, named the Rochdale Society of Equitable Pioneers founded in 1844. "As a means of getting over the high prices and the poor quality of the goods that were to be obtained in the neighbouring shops, 25 working men of Rochdale decided to buy certain general articles of consumption wholesale and to distribute them amongst themselves. For this purpose then they decided to raise a capital of £ 28 by weekly subscriptions of 2d. each. The process, however, took so long that the weekly amount was afterwards raised to 3d. When the savings of each had amounted

to £1, they commenced operations. They opened a small shop two evenings a week for the benefit only of members and their families. At first they stocked only four articles, flour, butter, sugar, oatmeal. The members took it in turn to act as salesmen, and so there were no distributing costs. This proved a great success, and their friends were so anxious to join that membership was enlarged and the new capital brought in by additional members enabled the business to be extended.

The capital of the first year was only	...	£28,
but the next year the capital had increased to		£181
the sales that year amounted to	...	£710
and the profits were	...	£32

From that time on, the progress was very rapid;

In 1850 capital £2300 sales £13000 profits £ 890

In 1855 „ 11000 „ 45000 „ 3000

In 1860 „ 37000 „ 152000 „ 16000

In spite of their very modest beginning the Rochdale Pioneers had a very ambitious programme including:—

1. The opening of a *general store*.
2. The *building of houses* for members.
3. The starting of *industrial enterprises* in which members could be employed.
4. The *acquiring of land* on which members could be employed who were out of work.
5. The opening of a *temperance hotel*.
6. The establishment of a self-supporting *home colony*.

In the Rochdale scheme, unlike most of former experiments, profits did not go to those who provided the capital, but were divided amongst all the members in proportion to the amounts of their purchases. In other

words, the consumers and not those who provided the capital were the only persons directly interested in the success of the business. The services of capital were remunerated by the payment of a fixed rate of interest”.

“The *methods* of conducting their business were also largely responsible for the Rochdale success. (1) Goods were not sold at cost price, but at the retail prices prevailing in the districts and the surplus resulting from their trading operations was not regarded as profits, but was returned to the members at the end of the year in the form of a dividend on the total amount spent by the member. This has in most cases worked at about 2s. in £ 1. (2) At the end of the year members were able to choose between receiving their dividend in cash or leaving it in the store as capital for which they would receive interest in the ordinary way. The latter alternative was a very great inducement to thrift. By merely leaving as in a savings bank, the dividend which fell due at the end of each year, a member who dealt regularly at the store became possessed of quite a considerable sum available for use in emergencies, for starting new business or for some other equally desirable purpose. (3) “All buying and selling was for cash. Selling for cash was at once a much needed reform and a source of financial security to the store.” (4) The store was a kind of miniature democracy. The members formed the governing body and each member had a vote on questions which came before it.”

“Another very estimable feature of Rochdale Scheme, which may also be found in most of the co-operative

societies of today is the definite setting apart of a portion of the surplus for *educational purposes*. The Rochdale Pioneers set aside $2\frac{1}{2}$ p.c. for this purpose and this proportion is still a very usual one. By education is meant not the ordinary school education of children, but what may be called the education of citizens, that is, the provision of educational facilities for those whose whole days are otherwise fully occupied."—"The Economics of Everyday Life," pp. 99 to 103, part II.

"The Co-operative Wholesale Society has factories in many towns for the manufacture of all kinds of food, furniture, clothing, etc. It has iron works, soap works, printing works, flour mills. It has tea-plantations of its own; it has fruit firms, dairy firms, and creameries. It has branch establishments in many parts of the world, such as, the United States, Canada, Australia, France, Spain, Sweden and Denmark." The Society in 1912 had in its employ 21,310 persons, that it had a capital of over 8 millions, that its net sales amounted to nearly 30 millions, and its net profits to about £ 613,000. *Ibid*, p. 105, 106, II. I am sorry I could not publish recent report.

3. Economic Conditions of India.

(Most part of this chapter is quoted from "*Economic Life in India*" by Mihir Kumar Sen. M.A.)

India is about 2000 miles long from North to South and nearly 2500 miles broad from East to West and is 15 times bigger than Great Britain. "The real India is still in the villages, which are mainly agricultural, numbering nearly 700,000 in which live 90 per cent of the people of the land".

“The economic life of a country is determined largely by its physical and natural environment as it is influenced by its social and religious institutions.”

Rainfall.—“The chief characteristics of the Indian rainfall are that, (1) *it is unequal in its distribution in the country, viz.* Cherrapunji (in Assam) has a normal rainfall of 460 inches, while Upper Sind has barely 3 inches; (2) *it is irregularly distributed in the year, viz.,* in one season an area may be deluged with rain, in another it becomes a sunburnt waste with not a drop of rain and (3) *it is uncertain in its coming, viz.,* the rain in India may fail to come as anticipated. Rainfall in India is of utmost economic importance, because 90 per cent of the people live ultimately on agriculture, which, in the absence of any extensive irrigation system, is almost wholly dependent on rainfall. Indian soil is rich in many parts.”

Minerals.—“India has long been famed for her mineral wealth.” The chief minerals are;—(1) Coal, nearly 20 million tons are raised every year and nearly 200,000 persons are engaged in coal-mining”. (2) *Iron.*—The richest and the most important iron deposits are in Orissa. Nearly two million tons of iron are raised every year. (3) *Manganese*—principally used for the manufacture of steel and is to be found mainly in the Central Provinces. (4) *Petroleum*—90 p.c. is obtained from Burmah. Other important minerals are *Gold* in Mysore, *Salt* in the Punjab and Rajputana, *Mica* in Bihar and Madras, *Lead* and *Silver* in the Shan States in Burma. Besides we have in India *precious stones* and deposits of

tin, zinc, copper, aluminium and nickel among other things.

Other Natural Resources—There is an extraordinary variety of vegetable and animal life in India and one can find here almost all specimens of fruits, flowers, vegetables, crops, trees and animals”.

The People.—The population in 1931 is about 353 millions, which is nearly one-fifth of the world's total. There are only 30 towns of any importance in the whole of India, whereas there are nearly 700,000 villages. Agriculture alone supports 22½ millions or 71 p.c., pastoral and hunting occupations employ 2 p.c., industries support 10 p.c., trade and transport 8 p.c. and administration 1½ p.c. The birth-rate is as high as death-rate. Marriage is almost universal,—there being no restraint nor control of births. The death-rate is high, specially among infants and married females. This is due in the main to poverty and want of poor nourishment. It is also due to insanitary ways of living, epidemic diseases, child marriage and lack of medical facilities. The average expectation of life in India is 23 years; in England, 47 years, in some other countries, still higher. The elaborate *caste system* of India amongst the Hindus who form the bulk of the population is a great hinderance to progress of the people. Early marriage, the *pardah*, want of mass education and female education, evil social institutions and customs, pessimism and fatalism of the Indians, religious factions and animosities, and similar causes are great obstacles to progress.

Condition of the Masses—“India presents a

picture of poverty, disease and ignorance not to be seen in any other civilized country of the world." "The average income of Indians per head has been differently estimated by different authorities, varying from Rs. 30 to Rs. 116. In 1926 the income in the U.S.A. was nearly Rs. 2000 per head per year; Rs. 1000, in Britain, Rs. 550 in Canada and Australia, and so on. The needs of the Indians are proverbially few."

"A large number of the people are so poor that they scarcely get a full meal a day and yet a larger number who do not get two full meals a day. The middle classes are also insufficiently nourished. The masses are scantily clad even in the rigorous winter, they live in ill-constructed and ill-ventilated mud huts with thatched roofs,— even the middle classes are not decently housed. An insufficiency of food, clothing and house-room tells on the physical and mental inefficiency of the workers, and impairs the productive powers of the nation. Besides the physical necessities, the people have to be provided with the higher necessities of life, such as *education, sanitation, leisure and recreation*. This would raise the standard of life of the people. But this is dependent on a rise in the present incomes of the people."

Principal Causes of Poverty and some Remedies.— Some of the principal causes of the abject and awful poverty of the masses are stated below and some remedial suggestions are advanced:—

- (1) Bad social customs and religious prejudices.
- (2) Habits of litigation.
- (3) Indebtedness to generally avaricious and cruel

usurers, who charge interest from 24 to 100 p.c. or more. "The agriculturist in India is born in debt, lives on debt and dies in debt." The most recent and authoritative estimate is that of the Banking Enquiry Committee, which places the rural indebtedness at about 900 crores. The causes of this heavy debt are:—(a) uncertainty of rainfall, (b) an excessive dependence on land as the sole means of subsistence, neglecting other industries, (c) more men trying to live on the land than land can maintain, (d) purchase of land on credit, (e) exorbitant rates of interest, (f) absence of any organization of producers, (g) heavy burden of land-tax in India, (h) compound interest plus false accounts.

(4) Fragmentation of holdings arising from ancient laws of inheritance. This difficulty can be removed by consolidating the small unprofitable plots of land by (1) state interference or (2) by voluntary agreement or co-operation through co-operation societies.

(5) Low standard of life.

(6) Excessive pressure and dependence on agriculture, to the neglect of arts and industries.

(7) Low productivity of the people due to their low vitality.

(8) Early marriage and epidemic diseases.

(9) Habits of extravagance in marriages, *śrādhās*, etc.

(10) Drain of wealth from the country.

(11) Black rats consume grain to the value of £ 12,000,000 annually; monkeys, peacocks, wild pigs, pigeons, etc., destroy a considerable proportion of the crops. The Hindus do not destroy them on religious

principles. At least 14,000,000 of the useless cattle consume Rs. 140,00,00,000 worth of fodder,—at Rs. 100 per animal.

(12) Neglect of Government in developing the economic resources of the people ; particularly their industrial development.

(13) Apathy of the zemindars (landholders) is one of the chief obstacles to rural progress.

(14) In the absence of regulated markets, the ryot is very often cheated in respect of the price, the weight and the quality of the produce.

(15) In progressive agricultural countries *fruit growing, sericulture, horticulture, dairying, poultry and cattle-farming* are also done by the agriculturist. In India relatively small importance is attached to these.

(16) The Indian soil is mostly dry. Rainfall is insufficient and not properly distributed. The irrigation works which have been constructed are also inadequate. They cover only one-fifth of the entire cultivated area. More canals, tanks and wells are necessary.

(17) Continuous cultivation of the land for centuries has diminished the fertility of the soil. The deterioration of the soil can be arrested by a rotation of crops. The fertility may be restored by application of manures. The cheapest and most suitable manure is cowdung; instead of using it for domestic fuel, it should be used as farm manure, or chemical manures can be introduced.

(18) There should be co-operative credit society in every village to minister to its needs.

(19) The ignorance of the people should be dispelled by education on the proper lines.

(20) Government, landholders and educated people should help the formation of regular organizations for the improvement of villages and agriculture.

"Co-operation and the Co-operation Movement in India.—The aim of Co-operation is to secure the material, and through the material, the moral advancement of the people. Co-operation aims at better business, better farming and better living." Fundamental principles of co-operation are,—(1) *voluntary, full association*, (2) *proximity*, the society is strictly local, (3) *equality*, all members having the same status, (4) *solidarity*, all members stand or fall together, (5) *economy*, all members should practise the virtues of thrift and economy, (6) *peace*, by eliminating the middleman, the money-lender and the capitalist producer, co-operation brings in peace in place of present strife and discord, (7) *facility loans* must extend to long periods at low interest. "Qualities necessary for the members of a co-operative society are (a) *Intelligence* to understand the above principles, (b) *Honesty* of purpose and in dealings, (c) *Thrift*, they should not be extravagant, (d) *Fellow feeling*, they should learn to sacrifice for the common good." Educated men should teach the villagers the advantages of co-operation.

"In India, the Co-operative Credit Societies Act was passed in 1904. It provided for the establishment of Credit Societies in villages. Co-operative Societies in India, numbered in the year 1929-30 nearly 104,000 with a membership of 42 lakhs and a capital of 90 crores of rupees. This

progress has been achieved in only a quarter of a century. Great moral and material progress of the people has been secured within a short time. Co-operation has led to a revival of the happy corporate life of the villages.* Co-operation has eliminated the '*mahajan*' and has checked improvidence and indolence, it has brought education, and has substituted arbitration in place of reckless litigation."

Famines—In India there is a famine of money, not a famine of food-stuff. The Orissa famine of 1865-67 cost a million lives. One-third of the people in Orissa died of hunger. Causes of famines:—(1) Economic causes are general poverty, (2) Physical causes are uncertainty of rainfall, want of rains or excess of rains, lack of proper transport facilities and ravages by animals.

4. **Some Important Remedies.**—(1) Economic measures;—(a) The pressure on land should be lessened to what the land can actually bear. To do this, occupations are to be multiplied. Manufacturing as well as cottage industries should be encouraged; (b) Migration, specially from over-populated areas, should be encouraged; (c) Land tax should be reduced; (d) Uneconomic social habits as well as love of litigation are to be discouraged. (2) Physical measures:—(a) Irrigation and conversion of grounds into forests; Irrigation methods are of 3 kinds—wells, tanks and canals. (b) Transport facilities are to be multiplied. "In modern times the railways provide the most important means of inland transport. The total railway mileage in the country is 41,000 miles, the total railway capital is 831 crores and the total annual gross

earnings are 119 crores approximately.”—“*Elements of Economics*” (1933). (c) Ravages by animals should be stopped. (3) Preventive or remedial measures:—(a) Construction of protective railways and irrigation works, (b) Preservation of forests, (c) Loans to agriculturists, (d) Land revenue administration should be made more humane and elastic. Other remedies are; 1. Waterways. The chief inland waterways of India are the Indus, the Brahmaputra and the Ganges with their numerous tributaries. The facilities offered by canals are not negligible. They give abundant facilities of transport and irrigation. 2. Roads of 3 classes; arterial roads, namely, the Grand Trunk Road, feeder roads maintained by District Boards, Village Roads maintained by Local and Union Boards. 3. Amongst other means of communication may be mentioned post, telegraph, telephones, aviation and radio-broadcasting.

Cottage and Village Industries.—Hand-loom weaving continues to be the principal cottage industry not only in Bengal but also of India. It gives occupation (according to the Report of the Industrial Commission of 1918) to near about 3 millions of men who earn the gross income of 50 crores of rupees a year.” “The ploughing, sowing, transplanting, weeding, reaping and threshing can engage a cultivator on an outside estimate not more than 90 days of 8 hours in a year.” Instead of remaining idle the cultivators should engage themselves in other industries. Let me mention here some of these industries. Brass and metal work, cane and bamboo work and matting, ivory, conch-shell and mother-of-pearl

work, horn work, lace-industry, sugar, *misri* and *gur* making; rope works, oil-pressing, apiculture (collection of honey and extraction of wax), dairying, pottery, carpentry, silk and silk cloth, *tasar* and *endi* rearing and weaving, culture of fruits, dyeing, leather industry, *shold* manufacture, carving, toys, etc."

5. Duties of the People and Economists

1. Every person has certain physical, mental and moral duties to perform towards himself, family members, society and the government.

2. He should make efforts to acquire wealth and judiciously spend it for his urgent necessities and necessary comforts; and for luxuries under certain conditions favourable to the society. He should save a certain portion of his income for emergencies, for the provision of himself in old age or in unfavourable circumstances.

3. Although according to the definition given in an elementary book on *economics*, *wealth* has power to satisfy our *wants*, yet *wants* should be properly defined, classified and explained. 1st. *Real want* is that which is necessary for the preservation and improvement of our body and mind. 2nd. *Acquired want* is that which man acquires by good or bad habits, the former kind is legitimate and the latter illegitimate. For example, habits of taking proper exercise, nourishing food and inhaling pure air, and mental and moral culture, etc., produce real wants; but habits of idleness, inordinate lust, using intoxicants, etc., generate *depraved wants*. By giving unrestricted satisfaction to our depraved wants, our

bodily health will be ruined, our mental faculty will be degenerated and we will suffer loss of money and other properties.

4. We should take adequate advantages of *gifts of nature* (mentioned before), sell off the useless cattle to the eaters of cows, improve the breed of cows, buffaloes and goats to increase milk-supply; bullocks, horses, asses and mules for cultivation and transport purposes; sheep for wool; establish poultry yards for the sale of birds and eggs; improve the quality and growth of vegetables and fruits, rice and wheat, oilseeds and fibrous plants, drugs and resins; improve soil by manure and irrigation; learn and practice sericulture, pisciculture, horticulture, epiculture, etc.; destroy rats and monkeys and other destroyers of crops. Take as much advantages of the forces of nature as we can.

5. We should increase our wealth by employing more labour, establishing organizations, engaging enterprising youngmen and applying more capital to manufactures or business.

6. We should increase our physical fitness by exercises, proper food and good habits; our technical fitness by theoretical and practical technical education; our mental fitness by proper culture; and our moral fitness by moral and religious training and cultivating spirit of self-sacrifice and fellow-feeling. We should curb our luxurious habits and form industrious habits.

7. We should save certain percentage of our income for the support of our dependants and for providing ourselves under unfavourable circumstances and for

contributing some item for the welfare of the community.

8. We should learn the methods of self-help and organizations by studying the examples of the Rochdale Society and other Societies and Organizations, such as, co-operative societies, banks, insurance companies, transport companies, provident societies, industrial and business firms, etc.

9. We should wipe off the invidious distinctions between castes and sub-castes of the Hindus; should efface the religious bigotry and animosity between the Hindus and Mahomedans; reduce enormous waste of money on the occasions of marriages, *Srāddhas*, pilgrimages, bathing ceremonies on the days of eclipses and *yogas* and *kumbha melās*; fight out evil social customs; shake off our lethargy by engaging ourselves and our children in industrial pursuits; leave off the use and manufacture of tobacco and intoxicating drinks and drugs, etc. We should prevent the wastages of our time, energy and money in gambling, horse-race gambling, unnecessary litigations on account of grudges, etc. Let the Governments and Kingdoms satisfy their pride, haughtiness and avarice by madly waging wars with one another by the destruction of their wealth, ammunition and man-power. But it is surely a wonder why the poor down-trodden Hindus and Mahomedans are wasting their time, energy and money, and sometimes lives, by fighting amongst themselves. This is horrible, heart-rending sight!

10. By stopping the sale of intoxicating drinks and drugs, about 50 or 60 crores of rupees can be saved to the

people. Let the producers and vendors of these obnoxious and injurious articles, spend their life-time in counting the sands of the sea as an innocent occupation; or let them engage themselves in some other useful employment; or let them emigrate to distant lands for earning vast money and pass luxurious lives; but they should pity the people plunged in squalid poverty and desist from manufacturing and selling intoxicants. By the use of intoxicants some 60 crores of rupees of the nation are being wasted every year, which is four times the amount spent by Government for the education of the people. Government have not given the thieves and robbers liberty to ply their obnoxious avocations, by declaring them as penal; but, are not willing to curb the so-called 'liberty' of the poor, foolish, weak-minded or intoxicated people in buying and using intoxicants! This is surely a paradoxical interpretation of 'liberty', upheld by some thoughtless, irresponsible fadists, wanting in sympathy for the weak poor people!

11. Let the Economists of India teach the people the main principles of Economy and the Economic conditions of India, and explain to them how they can increase their wealth and strength economically by cultivating the qualities of intelligence, honesty, thrift and fellow-feeling, and by combining themselves into industrial organisations. They should publish popular elementary books on Economics in English and vernaculars.

(M) POETS AND MUSICIANS.—When poets depict the beauties of nature, or describe the human feelings, or paint character of men;—lovers of poetry

appreciate them. Poets have their role in arousing the patriotic feelings of the people. The masses of all the independent nations are imbued with patriotic feelings from their boyhood by recitations of national poetry. Such feelings give impetus to men in undertaking public works of self-sacrifice and in calmly bearing physical privations and mental sorrows in case of failures and emergencies. Therefore, patriotic poems are necessary for arousing the drooping dormant spirit of men. There is no need of illustrating my point with concrete examples. Even the two words "*Bande Mátaram*" of a poetical piece by Bankim Chandra the novelist have gone deep in the minds of men of patriotic temperament. Therefore, patriotic songs in the principal vernaculars of India should be composed by poets. These songs will awake the sleeping sentiment of the people. Such songs should be sung by musicians, or by persons of patriotic nature after learning the tunes from musicians. They might be sung individually or in chorus with or without accompaniment of musical instruments. Bands by singers should sing the songs on proper occasions in cities and villages. They should teach the tunes to a large number of villagers and citizens, specially young people.

"Value of dancing as a School Subject is now generally recognised. ... Dancing has its own contribution to make to Physical Education in the teaching of balance, control and rhythmic action, and should be given special attention.... Music plays a valuable part in the physical education of a child; in all rhythmic games and dancing it is essential. ... Dancing has been mentioned as being

particularly useful for country children. The simple type of dancing can quite well be taken out of doors, —a violin, pipe, school band or gramophone supplying the accompaniment.”

—*Syllabus of Physical Training for Schools, 1933*, published by Board of Education, England.

(N). PANDITS AND MOLVIS should leave off old prejudices; and study the laws of social and religious books in the light of modern science and experience, by applying their reason, conscience and common sense, and should eschew those observances and customs, which are not suitable to the present time and circumstances; and form new codes of rituals and morals in such a manner that the Hindus and the Mahomedans can smoothly advance in the path of progress leaving aside all animosities and ill feeling amongst them. They should by mutual consent form new codes of conduct in social and religious matters which can be jointly followed by these two religionists. As long as they are at loggerheads, there can be no simultaneous growth of national life in India. Let me quote here the sayings of the poet Rabindra Nath Tagore,—“ Religion was meant to be unifier of mankind; it has been made as an instrument of severance and discord. Such a thing was witnessed in Europe only in the middle ages; but in India were witnessed in the progressive 20th century boasting of its scientific outlook.”—His address to the Journalists at Lahore on 23rd Feb. 1935.

In every Province of India Pandits and Molvies should form a Committee and frame such rules by following

which there will be little chance of quarrels between these two religionists. If they are still guided by the old traditions, and hamper the progress of the people, let them retire from their profession; and let all the influential and educated members of the two religions frame such rules which are conducive to the smooth progress of the people. Let the Mahomedan leaders attentively study how in the last 10 years the Republic of Turkey under Kemal Pasha has established monogamy, civil marriage and legal divorce, by laws; the women without an order have first thinned, then lifted, and finally thrown aside the veil. Now women are becoming magistrates, councillors, advocates, surgeons, dentists, typists, educationists, clerks, nurses, etc. When the people of the formerly *bigotted* Mahomedan kingdom have discarded deep-rooted manners and customs of centuries, there is hope for the enlightenment of the Mahomedans and Hindus of India. The present movement in India for the elevation of the depressed classes will sweep out several *deep-rooted* evil customs.

A notion is prevalent that the present system of learning will root out the evil habits and customs. I believe that this notion is wrong. Thousands of educated persons are still smoking and drinking, and are addicted to a number of evil customs and habits. In order to abolish them, special education should be imparted by new text-books and illustrated lectures. Even the illiterate persons can be educated in course of 2 or 3 years by regular lectures of thousands of social preachers. For this purpose, bands of unselfish workers should be formed

throughout the length and breadth of the land. Not only men, but women also should take up this noble work. Let the educated Mahomedan and Hindu ladies unite themselves and try to drive away old prejudices; and produce girls as Girl Guides according to the directions of Scouting; and gradually educate the grown-up women of both the religions.

(O) TEACHERS OF RELIGION—The leaders or advocates of religion can be broadly divided into three classes;— (1) Founders of religions, (2) Reformers of religion, and (3) Teachers of religion. (1) The Founders possessing pure spirit generally incarnate themselves in human form for effecting spiritual elevation of certain persons who devote themselves to Their Feet. They are born benefactors of mankind; they do not depend on worldly education for making them fit for carrying out their mission; they are great Spirits endowed with superhuman power. Their devoted disciples propagate the religious faith of the Founders and spread it amongst the people. But in course of time, the followers of those disciples intermingle their own ideas with the high principles of the Founders and their disciples, and thus pollute them. They attach more and more importance to the outward ceremonies and observances. (2) The reformers of religion are gifted persons who carry out their mission of reformation by sacrificing their body and mind. After their demise, some of their co-workers or followers keep up the spirit of the reformation to a certain extent. But in time, that standard of purification is lost or become degenerated. (3) Teachers of religion then

spring up of themselves, or are appointed by religious societies or rich persons to teach or preach religion. Generally, they do not develop their spiritual powers; some of them are guided by their moral principles alone; but others are mere workers for the sake of money or fame. Their propaganda does not generally elevate the mind of the people, who come in contact with those teachers or preachers. Some of them teach the students of schools and colleges the tenets of sectarian religion, and others preach the same things to the public. One religious sect is distinguishable from another on account of certain faiths, tenets, observances and ceremonies.

Thus the principal religions of the world are divided into a number of sects; and again each sect is subdivided into a number of sub-sects. For example, Christianity is divided into 4 or 5 dozen sects; Hinduism is divided into Vaishnavism, Shivaism, Sáktáism, etc.; and Vaishnavism is divided into several sub-sects. If the ultimate aim of our life is once for all settled,—that is, if our highest object of life be the knowledge of true Self (*i.e. átma*) and ultimately Supreme Spirit (*i.e. paramátma*), there cannot exist any animosity or ill feelings between the followers of different religions. He, whose prime object of life is to know *átma* and *paramátma* is so much engrossed with his spiritual devotional practice, that he has no time or inclination to quarrel with the followers of other religions. But if the teachers of religions are actuated by the desire of elevating the people's ideal of true religion free from sectarianism by means of catholic unsectarian education and national union, their

actions should be directed to eliminate all ill-feelings existing between the followers of different religions. Therefore, to attain that object they need not teach the public or the students the tenets of different religions, but teach them the general ethics of morality. The religious teachers of different religions should occasionally meet together by forming committees and find out ways and means by which all ill feelings between different religionists might be wiped off. The outward ceremonies and observances are mere garbs of different religions. The votaries of each religion should try to reform the garbs, which have become polluted by ages. Every religion has undergone great changes in course of time ; and has gone astray from the fundamental tenets of its Founder. Now the teachers of different religions should meet together often and often in reconciling spirit and chalk out a path of unity and fellow-feeling. They should evolve certain broad principles of union, religion, and devotional practices; and publish them for the edification and guidance of the people; so that a smooth relation might exist between all sects and religions.

(P) PHYSICAL CULTURISTS should teach young men of cities and villages the methods of proper exercise by which their body and health might be improved. I am tempted to quote below a few lines from "*Physical Culture*" of July 1932. They show how Mussolini of Italy uttered encouraging words regarding the physical culture of the modern Italians. He himself is an enthusiastic and active "outdoor man," vigorously practising what he preaches on the subjects of good health and exercise.

"The whole of Italy," said Mussolini, "is alive with outdoor exercise." "In health there is power and life; in disease there is weakness and perdition. We want healthy babies, healthy youths, healthy fathers and healthy mothers. These are the jewels and riches of the nation. We must make laws and conditions to maintain the health of all...It is the duty of the government to help the individual in this task. We cannot preach the healthy life unless we endeavour to make it possible to live it. Hence, I have given the most substantial encouragement to sports and physical culture in Italy...There is not a village or a town but has its playing fields and physical culture centre. For children and youths alone, there are 1,366 fully equipped buildings. There are 1,315 new playing fields; Besides, there is the work of the after-work organization, in which there are more than 16,70,000 members to provide physical recreation for workmen in their leisure hours. There are hundreds of playing fields at their disposal, while many of our cities and towns have specially constructed stadia. ...There are over 2000 specialized physical training instructors, while more than 10,000 regular day-school instructors have taken courses in physical education....In the summer of 1930 there were 202 mountain or seaside camps in which more than 100,000 boys and girls participated. No Italian child shall go without the proper physical training, if my government has anything to do with it. The nation which undertakes the burden of the health problem of the people and helps to cultivate the creed of the healthy body will produce a fearless race of

citizens." In this country not even one hundredth part of such measures is being taken. The educated people should advise and teach the ignorant people to improve their body and health by exercises and games.

(Q) GEOLOGISTS.—They in consultation with chemists, or by studying books on practical application of chemistry, can collect such geological products of India, as are used in articles of common use, in buildings, roads, agriculture, manufactures and works of art. Thereafter acquiring knowledge of these things they should educate the students and the people the elementary knowledge of the practical utility of the objects of the *mineral kingdom*. It is not desirable that the undergraduates and even graduates should remain in ignorance about common metals and alloys, common earths, stones, ores, fossils, jewels, coals, crystals, minerals, etc. They should know what are sandstone, slate, marble, agate, quartz, crystal, limestone, chalk, flint, granite, gypsum, pumice, soap-stone, etc. and their whereabouts and uses. They should be shown these articles, and their products and bi-products, which are used as chemicals, or are used in arts and manufactures. They should be explained the processes how those products and bi-products are made.

(R) BOTANISTS—They should teach their students the elements of botany, and show them and the illiterate people the common trees, shrubs, creepers, pot-herbs, vegetables, roots, bulbs, tubers, leaves, flowers, barks, seeds, etc; cereals, pulses, edible seeds, oily seeds, spices, etc; fruits (edible) and flowers (scented); sugar producing stems (sugar-cane) and sweet fruits and bulbs;

medicinal herbs, seeds, fruits, roots, leaves, stems, etc.; kinds of timber by means of specimens; intoxicating and poisonous plants, fruits, seeds and leaves; curious plants (such as insectivorous plants, bread-fruit, plant which gives drinking water if tapped, leaves which neutralize stings of scorpions and wasps, etc.) They should explain the general properties and uses of the above; when, where and how to grow them; preserve them, dry them, fry them, make infusions, decoctions and extracts from them; their chemical uses; uses for arts, furniture, building purposes, making tools and implements, dyes and tans, etc. The students and the people under tuition with the help of the teachers should collect small specimens of the above things, as far as possible, in a place for exhibition and thus gain some knowledge of the *vegetable kingdom*. Now-a-days photos and coloured illustrations of several kinds of specimens are available at a small cost. Without such object-lessons education is defective. The act of collection itself has an educative value. Keeping them in well-arranged order as exhibits, will facilitate recognition and help memorization. Nicely stitching the beautiful leaves of flowers and shrubs in books is one of the means for the cultivation of aesthetic taste and culture.

(S) ZOOLOGISTS.—They can do a great deal of good to the public, if they educate them on the following matters.

(a) Uses and abuses of animal diet; how ptomaine poison is generated in flesh; flesh of what animals, such as quadrupeds, birds, fishes, crustaceans, etc., might be

eaten, if they are not diseased; what parts of their body should be eschewed; what kinds of animal oils, fats, eggs, secretions from different organs are good or bad for our body; lists of some common animals or insects which should not be eaten at all; how to cook flesh, eggs, etc. or refine fats and oils for the purpose of using them as food or for arts.

(b) Lists of poisonous as well as non-poisonous snakes, reptiles, scorpions, centipedes, spiders, lizards, rats, cats, wasps, ants, mosquitoes, bees, flies, bugs, fleas, and dirty or poisonous insects, rabid-dogs, etc., whose bites are poisonous. What measures should be taken to prevent their biting or their poisoning eatables and drinkables. What are the common measures for the cure of the effects of painful or poisonous bites, scratching or licking.

(c) People should be warned against the germs which produce diseases, such as malaria, cholera, small-pox, beriberi, typhoid, tuberculosis, scabies, diarrhoea, hook-worm, itches. In this subject bacteriologists should be consulted. Preventive and common curative measures should be taken; of course, in complicated cases medicines should be prescribed by medical men.

(d) Lists of animals, birds, fishes, insects, etc., which are scavengers of nature, or which protect the crops from other insects, or which destroy crops; or the insects, such as, white ants which destroy doors, rafters, thatched roofs, furniture, clothing, household articles, etc.; and how to prevent their ravages.

(e) How to generate tender feelings amongst the elders, and specially in children by domesticating cats, dogs,

birds, etc. How the hobbies of rich people can be satisfied by the collection of living stuffed, or preserved animals; or keeping aquariums, or products of the sea, or menageries. Boys and girls should be encouraged to make collections of insects, butterflies, scorpions, beautiful birds, etc., in schools and colleges as exhibits for the general education of students. Zoologists should induce all colleges of big cities to jointly collect the above exhibits in a hall for the general education of the students regarding *animal kingdom*.

(f) People should be entertained with oral or published stories of the doings of faithful dogs and horses; about the instinctive faculties of detective dogs, clever rats, ingenious monkeys, fighting fishes, number-calculating elephants, weaving birds, bees, ants, etc., cunning foxes, ingeniously-built nests of birds, bee-hives, wasp-hives, habitations of some animals; designs for catching, taming and utilizing tigers, lions, bears, elephants, zebras, etc., for circuses; about deep-sea animals, curious extinct animals, pouched beavers, messenger pigeons, rattle snakes and big pythons, large whales, gorillas and chimpanzies of enormous strength, mimicry and freaks of nature in some creatures, spider's nets, silk cocoons, etc., etc. They should be shown the economic products from animals, such as, horns, hoofs, hairs, skin, hide, leather, tusks, nails, eggs, oil, fat, bones, etc., and explained their various uses and manufactures. Narrations about the gratitude, vindictiveness, wrath, memory, faithfulness, fellow-feeling between animals of different kinds living under the same roof, should be

recited;—these narrations of facts are more educative than fabricated stories of old grandmothers.

(T) EXPERTS IN THE PRACTICAL SCIENCES should individually or collectively make strenuous efforts in finding out suitable and favourable situations for opening new manufactories or industries; and form companies by approaching patriotic rich men for the purpose. For example, experts in *mining* should tap the spots where some minerals may exist, or devise cheaper or easier methods of taking out minerals in the existing mines and utilize them for the public. Experts in *Electricity* should search for suitable sites where river-currents can be utilized in generating hydro-electric power. They should teach the people the uses of common electric appliances and the precautions against electric shocks. They can devise plants for generating heat and power by concentrating tropical rays of the sun. Experts in *Chemistry* should open up industries for producing saleable chemicals. They can, in conjunction with *medical* men, manufacture *vaidak*, *unāni* or allopathic or homeopathic medicines and thus save crores of rupees of the Indian people. *Agriculture* experts should try to introduce improved methods of agriculture; to improve the soil and seeds; to increase the number of fruit trees; to extensively grow vegetables and nutritive ground-nuts, sugar canes and oily seeds; and to implant medicinal herbs. They should take steps to improve irrigation through the help of Government and take such actions, as are not yet taken by the cultivators on account of their ignorance, incapacity, non-co-operation

and idleness. They should teach the cultivators the utility of chemical manures; and the methods of sericulture. They should start dairy farms by improving cattle-breeding and increasing pasturage grounds. Each of these classes of experts should publish popular books in English (if necessary) and also in vernaculars.

(U) MECHANICAL ENGINEERS—I think every senator and syndic and every Director of Education knows that the material prosperity of England, Germany, U.S.A. and Japan is mainly due to the use of machinery; but still they neglected to teach the students the practical uses of machines and instruments for the last 50 years and have engaged them in acquiring less important academical knowledge. Even now let them rectify their mistake by appointing practical mechanics to teach the students the use of tools and machines in suitable periods and classes, along with other studies. Mechanical Engineers should form bands of mechanics and teach the people these things, first in all the cities of India and then gradually in the villages. Night-schools should be opened for those workmen or students who remain engaged during daytime.

(V) CIVIL ENGINEERS—They should open schools for producing Sub-Overseers out of middle-scholarship holders or Matrics or F.Sc.'s by teaching them how to survey and draw ordinary plans; and find out areas and volumes; to excavate wells, tanks, water courses; to superintend the construction of buildings by guiding the masons and carpenters, etc. They should be taught the uses and costs of different building materials; the different kinds of

wrought iron and cast iron things, wooden articles and door and window fittings, plumbing and sanitary works and fittings, etc. At least one year's course will equip these young men to earn their livelihood according to their ability and tactics.

(W) EXPERTS IN POLYTECHNICS.—On p. 111, Chap. VII of this book a list of 50 Branches of Polytechnics is given. Generally one person becomes expert in one branch only; although in special cases he might be expert in 2 or 3 branches. In the present stage of society it cannot be expected that the Government, the Universities or the people will open big Polytechnic Schools teaching several branches. Even if that is possible, schools shall have to be opened in big cities. Villages are not suitable places for teaching so many branches to hundreds of students. This is too much to be hoped in the present circumstances. Therefore, one or more experts jointly should open classes for teaching one or two connected subjects in cities or big villages. Thus 50 classes of different branches in each District or each Division of a Province might be opened. This is a practicable way of spreading technical knowledge amongst the people.

(X) EXPERTS IN MISCELLANEOUS SUBJECTS—Out of 25 Miscellaneous subjects enlisted in pp. 111, 112, Chapter VII of this book about 14 subjects are taught in the different Government and private schools. General public cannot be easily educated in these subjects. Elementary Astronomy regarding the Sun, Earth and Moon and the movements of the earth and moon, and causes of day and night and their variations in different zones,

and idleness. They should teach the cultivators the utility of chemical manures; and the methods of sericulture. They should start dairy farms by improving cattle-breeding and increasing pasturage grounds. Each of these classes of experts should publish popular books in English (if necessary) and also in vernaculars.

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different variations of temperature, different seasons and climates on the face of the earth, eclipses of the sun and moon and their orbits, etc. should be taught by a strong light representing the Sun, and two different globes representing the Earth and Moon,—because generally the students form wrong conceptions of these things by being taught simply by their pictures,—specially on account of the wrong representation of the Orbit of the Earth round the Sun in the school-maps.

There is little convenience for teaching Stage Education, Magic, Cinemas with Talkies and Gramophones. Individual experts in Mesmerism and Hypnotism, Spiritualism, Astrology, Phrenology, Palmistry and Physiognomy can teach these subjects to select pupils.

Sympathisers with National Education

Let us awake and arise, shake off our lethargy and prejudices, generate feelings of love and sacrifice, and thus do service to the country. Let me support my appeal with the sayings quoted below:—

Of all monarchs Nature is the most just in enactment of laws, and the most rigorous in punishing the violation of them. —*Wilkins.*

The mills of God grind slowly; yet they grind exactly small. —*Longfellow.*

The greatest and noblest pleasure which men can have in this world is to discover new truths; and the next is to shake off old prejudices. —*Frederick the Great.*

We should often pray to the Supreme Father, for showering His grace and mercy on us. It is hoped that He

will fulfil our legitimate desires, if we play our parts well.

It is for us to realise the supreme need of abandoning paths of hatred, violence, and destruction. It is for us to concentrate on constructive plans of reform and expansion in different fields of activity for the promotion of national prosperity.—Extract from the Convocation Address of 2nd March 1935 by the Vice-Chancellor of the Calcutta University.

The Sympathisers with national education should educate the students, and town and village people by means of recreations. I propose the following methods of education. (a) Playing with gramophones and musical instruments. (b) Showing natural phenomena, wonders of human art, famous buildings, temples, tombs, caves, bridges, manufactories; bird's-eye views; water vehicles, land vehicles, air vehicles; subjects of health, hygiene, maternity and child-welfare; ethnology; mythology; customs, habitations and dresses of various nations; internal organs of the human body; astronomical views; various plays and pastimes; caricatures; famous persons; common or wonderful animals; disease microbes; insects, plants, etc., by means of charts, pictures, magic lanterns or by projecting opaque pictures, accompanied by explanatory lectures. (c) They should be entertained by cinemas with the sounds of roaring lions and tigers, and water-falls; live volcanoes, aurora borealis, prairies on fire, water-spouts, the Valley of Ten-thousand Smokes, calm or boisterous sea, snow-clad mountains, foaming rapids, thundering lightnings, melodious music, playing circus, etc., etc. It is a matter of great wonder

and regret, that the educational authorities of India have not as yet thought it their worthwhile to take advantage of these modern inventions in teaching the students by entertainment. (d) City and village students should be taught how to sing and dance, and how to play on common musical instruments singly or in bands, such as, flutes, violins, country-*bánsi*, *dholá*, cymbals, or *manjirdá*, etc. (e) They should get by heart some poetical pieces in simple vernaculars of patriotic or devotional nature, to be composed by men imbued with national spirit or moved by religious feelings. They should now and then recite them with simple musical tune singly or in chorus with or without accompaniment of instruments. (f) They should be shown microscopic and telescopic wonders by microscopes and telescopes, electric and magnetic wonders by electric and magnetic appliances, wonders of light, sound and heat by physical appliances, chemical wonders by chemical appliances and mechanical devices by the working of machines. We should not any more neglect the pupils in getting cursory knowledge of these things. Not only science students, but even common people and school students, have a lurking desire and human birth-right to know these things. Defects of half-a-century should be set right now.

By studying the lives of the great discoverers and inventors of various arts and manufactures, we come to know that only hopes encouraged them to incessantly work for years to attain success under unfavourable circumstances. They, in their life-time invented or discovered a number of beneficial things, and after their

death other geniuses improved upon those ideas left behind and developed them into gigantic manufactories wherein millions of persons are employed. At the beginning they got very little monetary help. But when they were successful, great capitalists pushed on the manufactures. For example, the inventors of gramophone, photography, cinema, talkie, power-loom, steam-engine, automobile, bicycle, æroplane, steamer, railway, etc. never dreamt that their inventions would expand into such gigantic proportions, and would give employment and comfort to millions and billions of people all over the world. They devoted their lives for the humanity. We should get inspiration from these benefactors of mankind. Instead of being disheartened, we should feel encouraged with hope to work for our country in the right direction, laying our implicit faith in the Providence. We should incessantly pray to the Holy Feet of the Supreme Father to guide and help us in our efforts in the matter of national education. With His help we can succeed,—but without His help we are doomed! Far from this horrible destiny! Let us be wide awake, let us be united, let us work in unison, and offer our humble prayers at His Feet,—such prayers will bring on the proper attitude of our mind to work in the proper direction. May God help us!

It will take several pages to prove that in ancient as well as in modern times, pure morality and religion were and are not generally taught by precepts or examples. Pure morality has its basis in the love of mankind; and the beginning and end of religion are founded on

the fear, love and devotion for God. Eliminate this *love*, and the whole structure of morality and religion will tumble down. Leaving aside the highly exaggerated stories of conquests and kingdoms described in mythological books, if you study the authenticated histories of the various civilised nations, therein you will find persecutions, bloodsheds, and slaughters of men and women in times of wars and sometimes at times of peace, perpetrated by aggrandising kings, governments or peoples for the sake of extending empires, for amassing wealth, satisfying selfish objects, and sometimes on pretext of religion;—although the Founders and reformers of religion never advised to wage wars for wealth or kingdom, and to torture or murder people for selfish ends. The root cause of all this barbarity is lack of love for mankind. We naturally hate cannibalism existing amongst certain aboriginal tribes. Robbers and murderers are imprisoned or put to death in civilized countries. But the loss of human lives caused by them is far less than that caused by wars and invasions. More than two thousand years have passed since Alexander failed to retort to the charge put forth against him by the robber. Since then millions of persons have been tortured or put to death by kings and invaders in iniquitous wars; and the wonder is that these cruel, inhuman acts have not generated abhorrence in the mind of the majority of civilized peoples. On the other hand the kings and generals were extolled for winning victories by bloodshed. What sort of morality or religion would sanction such wars? Savages can be civilized by educative measures

if tactfully tackled, instead of waging wars against them. Most of the ferocious animals do not roam about for their preys when their belly is full. But civilized nations still wage cruel wars. There is reason and sense in defending one's country and liberty against the invaders by killing the enemies. But why should civilized nations wage offensive bloody wars? The experience of thousands of years has not changed the brutish nature of mankind. The formation of the League of Nations is a hopeful sign for future stoppage of warfare; but it can act successfully if the Nations reduce their own armies to 25 p.c. for keeping internal peace and contribute 10 p.c. cost of their armies to the League, so that it can keep a common army with these contributions for stopping aggressive wars. For keeping the disarmed Indian people in subjugation 20 p.c. of the existing army is sufficient, so that the saving of 70 p.c. cost of the Indian army might be utilized for the education and industries of the people. Out of contributions of the nations affiliated under the League, the savages of the world can be properly educated without bloodshed. Our leaders should teach the people how mighty kings and great empires were ruined for aggressive wars; and how the people of India have suffered on account of religious bigotry and its evil consequences. They should follow the methods of some noble Christian missionaries in educating the Indians, and sacrifice their lives in generating love of God and sympathy for mankind.

May the Almighty lead the Indians and the Government in the right path !

Introduction to my Publications

People of India, even the educated Indians, generally do not know how to cleanse the body properly; how to protect it from heat and cold, filth and microbes; what are the benefits of cleanliness; and what are the special hygienic rules for the Care of the Eyes, Ear, Nose, Teeth and Mouth, Skin, Right Breathing, Diet and Digestion. As there are very few cheap popular books on these subjects fit for the Indians, I have felt the necessity of publishing such books for the education of the Indian people, especially the student community.

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As it will take about 50 pages to publish all the Reviews, I mention only names of the Journals which have favourably reviewed most of the books:—*Longevity, Medical Practitioner, Burmah Medical Times, Indian Review, Antiseptic, Saraswati, Bombay Chronicle, Medical Comrade, Industry, Education, Modern Review, Federated India, Medical Digest, Venkateswar Samachar, etc.*

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