

UNIVERSITY REFORM

BY A TEACHER.



“Our remedies oft in ourselves do lie,
“Which we ascribe to heaven : the fated sky
“Gives us free scope; only doth backward pull
“Our slow designs, when we ourselves are dull.”

SHAKSPEARE.



Sicut:

PRINTED AT THE IRISH MISSION PRESS.

—
1895.

“The mass of men, simply because they are a mass of men, receive with difficulty every new idea, unless it lies in the track of their own knowledge; and this opposition, which every new idea must vanquish, becomes tenfold greater when the idea is promulgated from a source not in itself authoritative.”

LEWES' LIFE OF GOETHE.

“It is the duty of scholars and philosophers not to shrink from holding and expressing what men of the world call quixotic opinions; for, if I read the history of the world rightly, the victory of reason over unreason, and the whole progress of our race, have generally been achieved by such fools as ourselves “rushing in where angels fear to tread,” till after a time the track becomes beaten, and even angels are no longer afraid.”

MAX MÜLLER.

To

W. WORDSWORTH, Esquire, B. A., C. I. E., LL. D.,

Retired Principal of Elphinstone College,

and

Vice-Chancellor of the Bombay University ;

and

The Hon'ble Mr. JUSTICE RANADE, M. A., LL. B., C. I. E.,

Judge, High Court, Bombay,

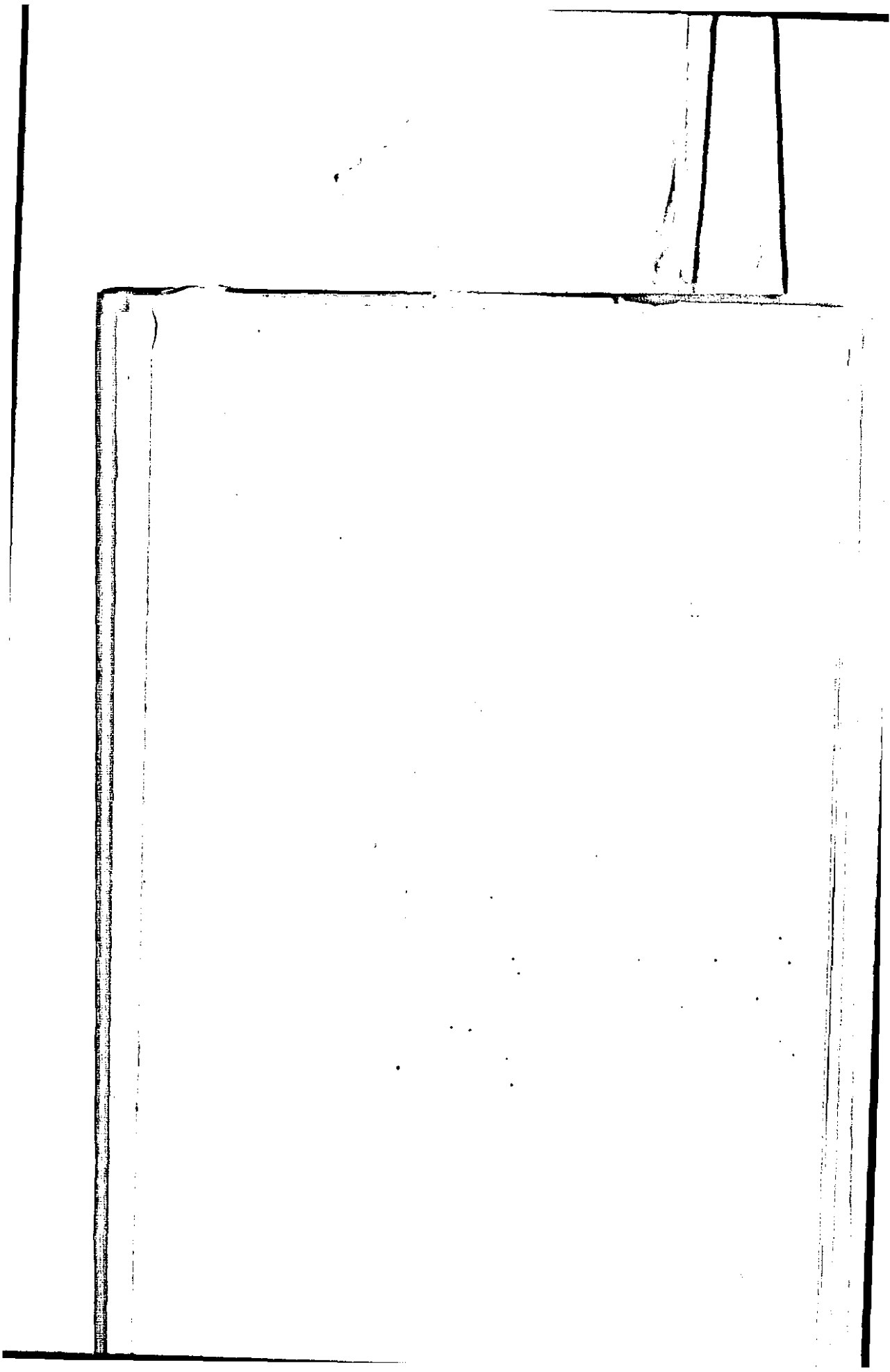
THIS PAPER IS RESPECTFULLY INSCRIBED,

In appreciation of their services to the cause of

EDUCATION IN WESTERN INDIA,

BY

THEIR GRATEFUL AND AFFECTIONATE PUPIL.



The importance of the bearing of a sound system of education on the right solution of all social and political questions on which depends the well-being of a people has not been sufficiently recognised by the leaders of native thought. The topics that absorb all the public attention are financial, political and social reforms. Hence the ignorance and apathy generally shown for educational problems. The spell of indifference was, however, broken for a time last year by the controversy between Dr. Bhandarkar and the Hon'ble Mr. Justice Ranade. In this controversy the question of University Reform was made unnecessarily to depend upon the answer to the question whether or not the university strain was responsible for the heavy death-rate among the graduates. The question of University Reform deserves public attention irrespective of the question of mental strain; and I drew public attention to this last year in the columns of the Gujarat Mitra and gave my reasons for such an opinion.

The articles having attracted the attention of persons interested in University Reform, it was suggested to me that I should draw up my recommendations in the form of a paper. And this paper is the result of that suggestion. Being desirous to correct my own views by the light of the views of other people, I submitted my original articles, with all their imperfections, to several gentlemen, both Native and European—for their opinions and suggestions. The result was encouraging beyond my expectations. I have to thank the Hon'ble Mr. R. M. Sayani, M. A., LL. B., Messrs. N. G. Chandavarker, B. A., LL. B., G. M. Tripathi, B. A., LL. B.,

M. M. Munshi, B. A., LL. B., A. S. Davur, B.A., and D. E. Wacha, of Bombay; Messrs. M. H. Desai, B. A., K. P. Trivedi, B. A., and D. B. Wells, M. A., of Ahmedabad; Messrs. K. M. Dave, B. A., LL. B., and L. P. Adalja, of Rajkot; Prof. B. A. Enti, of Bhavnagar; Prof. M. N. Dwivedi, of Baroda; and Principal Jervis, Dr. A. D. Cooper, and Khan Saheb J. E. Modi, B. A., LL. B., of Surat, for their sympathy and appreciation of the views on reform proposed by me. Revd. H. R. Scott, M. A., of Rajkot Mission, Revd. G. P. Taylor, M. A., D. D., of Ahmedabad Mission, Principal Gajjar of Kala-Bhavan, Prof. Middleton, of Baroda College, and Khan Bahadur B. E. Modi, M. A., LL. B., Judge of the Small Causes Court, Surat, have laid me under much obligation by their great interest and valuable suggestions. Finally, the ungrudging assistance of the Hon'ble Mr. Justice Ranade, M. A., LL. B., C I. E., has proved invaluable in the preparation of this paper. I cannot, however, hold any one responsible for the views expressed in this paper but myself.

I have purposely avoided going into detail of studies for the various examinations, because I hold, with Principal Gajjar, that the subject is vast and requires the co-operation of many specialists. What is omitted in this paper will be found, however, fully treated in Principal Gajjar's able Note on University Reform.

SURAT,
April, 1895.

CHAIRMAN AND GENTLEMEN,

As in social and political reforms, so in educational reforms there have been two parties, *viz.*, those who are for reforms and those who are against them. This state of things is by no means to be deprecated, as it affords the best means of exhaustively sifting the pros and cons of a question, and arriving at a tolerably safe and sound conclusion avoiding extremes. The conservative or orthodox party acts as a wholesome check upon the sometimes too exuberant zeal of an honest but go-a-head reformer. In this sense, and in no other, would the antagonism be welcome. But what surprises one is that many Indians and even those who advocate social reforms seem to set their faces against educational reforms. At any rate they think that educational reforms are not either necessary or possible. This tendency to cry down educational reforms in India is probably due to the fact that, after an age of stagnation, the present educational activity owes its origin to western agency and western influence, and the Indians, having lost the power of initiating for themselves any line of reform, cannot look forward beyond what has been attempted by their English masters. They fondly think that the acme of perfection has been reached when they blindly copy their model. But this is a mistake.

Gentlemen, you are aware that complaints have been made year after year against the management of our University affairs. Frequent complaints have been made against the principles followed in making the appointments of examiners, against the vagaries of the examiners, against the clandestine disclosure of questions before they were actually set to the candidates in the Examination Hall, against frequent and abrupt changes in the standards of examination, and against the amount of work exacted from students to the detriment of their health, and sometimes even of their lives.

You are aware of the circumstances under which Mr. Melita's Committee of enquiry was appointed. Professors complained of the length of the courses; and Head Masters complained of the fluctuating and uncertain test of the Matriculation Examination. For instance, while in the year 1871 all the thirteen candidates for the LL. B. degree were declared to have passed the examination, two years after in 1873 only one out of six candidates was allowed to pass. While in 1892, 1054 candidates, representing a percentage of 35.48, were passed in the Matriculation examination, in 1893 only 649, showing a very much reduced percentage of 21.60, were declared to have passed. Such extreme results shake the faith of the public in the work of the university; and create a sort of most painful uncertainty and consequent demoralization. Moreover, they are unfair to the candidates as well as to their teachers. Regarding the value of the Matriculation examination results, the Rev. Mr. Taylor of Ahmedabad writes as follows :—

“At present it is quite impossible to gauge the relative attainments of candidates for that examination, since its standard varies so much in different years and at different centres. It is becoming more and more urgently felt that some kind of protection should be accorded to the examinees from the vagaries of newly appointed examiners.”

Lord Reay in his convocation speech gave the following parting advice to the senators regarding the necessity of having a fixed standard for examinations :—

“I might, perhaps, before we part, suggest that to maintain in your examinations that continuity of standards, which is so desirable, it may be deemed advisable by you to institute a Board of Studies to which all examination papers should be referred before they are issued to the candidates.”

Lord Reay's parting advice.

Under all these circumstances I think you will readily agree with me that there cannot be two opinions regarding the necessity of reforms in the mode of conducting University examinations, as also in fixing the curricula.

There are, however, some gentlemen among the senators who seem to think that reforms are not possible. Among them is our learned Vice-Chancellor, Dr. Bhandarker. In his letter to the Times of India, dated 24th April last, he wrote :—

“ If Mr. Ranade thinks that the real evil lies in the University Curriculum, he ought to have faced that vital question and given us his solution of it, instead of contenting himself with a general allusion to the Pass Degree of the English Universities. He has not made any specific proposal as to how the standard should be reduced. The only definite thing that he and persons who think with him have got to say is that candidates who fail in certain subjects should be examined in the following year in those subjects only.”

Now I think Dr. Bhandarker and those who are of his opinion are perfectly right in making this demand from the advocates of reform. In accordance with this demand, gentlemen, I venture to appear before you, because I hold that reforms are necessary irrespective of the question whether the University strain is or is not responsible for the heavy mortality among the graduates. I ask your permission to lay my humble suggestions before you for your careful consideration. I am aware of the many shortcomings of all such schemes; but if they excite interest and lead to a fair and full discussion of this important public question, I shall not have troubled you in vain.

Before proceeding to consider in detail the suggestions for university reform, I shall state the principles on which they have been based.

Principles of Reform.

These principles are: (1) that culture and utility should be

accepted as the *beau ideal* of our University; (2) that new subjects should be added and new degrees created to suit the changed conditions of life and the progress already made in our Presidency; (3) that old and time-honoured subjects should make room, if necessary, for more modern, scientific and useful subjects; (4) that the curricula of studies should be so arranged as to suit different tastes, and afford development to various faculties; (5) that in order to bring students in close contact with University life, compulsory residence in Colleges under the superintendence of Professors, for at least one year, should be insisted upon for all final examinations for University degrees; (6) that the University should refuse to recognize any institution which omits to provide for the moral and physical well-being of its students; (7) that examinations should be testing but few, so that the students might get time not only to read, but also to digest and master their subjects; (8) that the number of subjects should be very few in higher examinations, so as to enable students to acquire a thorough mastery over their subjects; (9) that there should be uniformity and fixity of standards; (10) that in order to encourage original research, fellowships in connection with the University should be established; (11) that the rules regarding the appointment of examiners and the conduct of examinations should be clearly laid down, as is done by the Calcutta and the Madras Universities; (12) that every possible encouragement to higher education among women should be given; (13) that every possible encouragement to vernacular languages and literature should be given; and (14) that the information on points in which the students are interested should not be withheld from them except for very good reasons.

These principles are the necessary and logical outcome of our past experience, and the results to which the system of our University has led; and they are all suggested by a comparison

of the working of our University with that of the two sister Universities. They are so fair that no thoughtful well-wisher of our University will have any difficulty in accepting them, differ as he may in the details of the working of it.

With these few observations I now proceed to suggest the proposed changes, which, if carried out, will give a fresh start and new life to our Alma Mater. With regard to the novelty of some of the changes, I must ask you to bear one thing in mind, *viz.*, there is no proposal placed before you that has not been already carried out either in the Madras University, or the Calcutta University, with the single exception of the proposal for the S. F. examination for Girls.

PROPOSED CHANGES.

BY-LAWS AND REGULATIONS.

Our University would do well to adopt rule 83 of the By-laws and Regulations of the Madras University, which provides that an address shall be delivered to the candidates by a member of the Senate appointed by the Chancellor annually on his behalf. In our University it is the privilege either of the Chancellor or the Vice-Chancellor to address the successful candidates. Consequently no educated native on our side, except Dr. Bhandarker, has had an opportunity of speaking on matters of education in connection with the University. While in Madras this rule has enabled four distinguished natives, *viz.*, the Hon'ble Mr. Justice Muthusamy Aiyar, the late Raja Sir T. Madhavrow, Rai Bahadur Ranganadha Mudalier, and the Hon'ble V. Bhashyam Aiyangar, to express their views on education. The Madras list of persons who delivered addresses comprises, in consequence of this rule, Governors, Administrators, Clergymen, Doctors, Educationists, Lawyers, and even representatives of the army. The advantage of such a rule is that each faculty gets an opportunity to have its say.

The system of Boards of Studies should be adopted by our university to ensure that continuity of standards in examinations which is so desirable. Madras has 13 Boards of Studies, and Calcutta has 10, while we have none; and the consequence is that it is impossible for the syndicate to check the vagaries of examiners, and the fluctuations in the standards and the results year after year. The Boards should be empowered (1) to recommend examiners and assistant examiners in their respective branches; (2) to recommend the text books; (3) to consult specialists, who are not fellows of the University; and (4) to consider and report on all matters referred to them by the syndicate.

Calcutta seems to be very particular in laying down definite rules in all matters connected with the conduct of examinations. They are put down under two heads, *viz.*, general and special. I quote some of the most striking rules under the former head.

RULE 3. "Not less than a month before the commencement of the Arts Examinations the syndicate shall appoint examiners to look over the answer papers of the candidates and four Head Examiners to superintend the work of the Entrance Examiners."

RULE 13. "As soon as the results have been tabulated, the Registrar shall prepare a list of the candidates who have failed in one subject only and in order to guard against any possible inaccuracy their papers in that subject shall be re-examined by the original examiner, or by the Head Examiners, on the method of marking already adopted, and without any alteration of the standard."

RULE 14. "If any examiner fails to send in all his marks within the prescribed period, the amount of his remuneration shall be deducted by Rs. 16 for each day by which he exceeds that period."

RULE 18. "Not less than a month before the commencement of the Entrance and F. A. Examinations the syndicate shall appoint, from among the representatives of the Faculty of Arts, four Moderators. The Moderators, in consultation with the Registrar, shall be empowered to pass candidates who have failed in one subject only in either of the above examinations, by the addition of grace marks. If the Moderators and the Registrar are not unanimous on any point, it shall be referred to the syndicate at their next meeting."

Under the special head the following rules are worth quoting.

RULE 6. "The Head Examiner shall determine, in consultation with the Entrance Examiners, the method of marking the answer papers of the candidates."

RULE 7. "Each Head Examiner shall re-examine five per cent of the answer papers looked over by each of the Entrance Examiners in his subject, with a view to see whether they are working uniformly according to the method indicated, and shall direct, if necessary, any examiner to conform strictly to that method."

RULE 8. "In no case shall the Head Examiner increase or diminish the marks assigned to any paper by an Entrance Examiner without himself examining that paper."

RULE 9. "In case of a difference of opinion arising between a Head Examiner and an Entrance Examiner an appeal shall lie to the Moderators."

Calcutta like Madras allows the candidates to know what percentage of marks is necessary to pass in any head or subhead of an examination. Calcutta also publishes for the information of the public the scale of remuneration allowed for various examinations.

Our University would do well to adopt these rules. Had our university laid down clear and distinct rules for the conduct

of examinations there would have been no necessity of appointing Mr. Mehta's Committee.

I beg to invite the special attention of the advocates of Social reforms to the rules laid down by the Calcutta University under the head—General—for the encouragement of higher education among women, and the examination of Female Candidates. These rules are :—

1. Female candidates shall be examined in a separate place under the superintendence of ladies.

1. Female candidates may be admitted to this examination without studying in an affiliated institution. No candidate, however, shall be allowed to present herself for this examination, until two years have elapsed from the time of her passing the Entrance Examination.

F. A. Examination of
Female candidates.

without studying in an affiliated institution. No candidate, however, shall be

2. Every female candidate shall be allowed to take up the subjects prescribed by the University of Calcutta for the F. A. course, with the option of substituting German, Italian or an Indian vernacular for the 2nd language.

3. Female candidates shall also be allowed to substitute Botany for Physics and Chemistry.

1. Female candidates may be admitted to this examination without studying in any affiliated institution. But no candidate shall be allowed to present herself for this examination until two years have elapsed from the time of her passing the F. A. examination.

B. A. Examination for
Female candidates.

without studying in any affiliated institution. But no candidate shall be allowed

I venture to ask, gentlemen, whether the adoption by our University of these or similar rules would not facilitate the progress of higher education among the Hindus and Mahomedans.

The Calcutta Medical College imparts tuition to the female candidates without charging any fees; and well might our Grant Medical College follow the example of Calcutta. If there are any

professions for which women are eminently fitted, they are the professions of teaching and medicine. We want them to work side by side with men in these professions, as they are sure to do much good. We know by bitter experience that it is idle to dream of social progress without the help of educated women.

CHANGES IN EXAMINATIONS AND CURRICULA.

The School Final Examination, I presume, is intended to be a test for candidates wishing to enter the Lower Grade Public Service or Mercantile Service. In the interests of the Public Service as well as the School Final candidates, Government should be asked to abolish the Departmental test for the 2nd Grade Public Service Certificate Examination, which is much inferior to the university examination test.

In the third head of compulsory subjects, Mental Arithmetic and Book-keeping, Official or Commercial correspondence and Precis writing, are desirable additions.

For the purposes of the School Final Examination, History and Mathematics, including Algebra and Euclid among the optional subjects, are of no practical use, and should be replaced by Shorthand writing.

If these suggestions are adopted this examination will meet the requirements of Government Service, as well as of the Mercantile Community.

When there is a U S. F. Examination for boys, there is no reason why there should not be a similar examination for girls, who may be unable to follow up their studies beyond the Matriculation examination. I beg to suggest the following subjects to which others may be added, if necessary.

I. English, II. A vernacular language, III. Arithmetic, Thring on Drawing as a subject for training. IV. Hygiene, V. Domestic Economy, and VI. Drawing. Regarding the value of Drawing as a subject for training, Mr. Thring's words are worthy of attention. He says, "There is another subject almost as much within reach as language, which is entirely neglected as a training subject for mind, though equally open to all, which demands nicety of hand and eye, great mechanical skill, and introduces the dullest at once to strange discoveries in common things, that greatest point of true Education. It is marvellous that the grand training of Drawing has never taken its place as a teaching power. The learner is met on the very threshold by the truth of truths, that he has eyes that see not, and hands which cannot do his will. He finds out that the lines go in a way he knows not, though they are known. He looks at a wall, and sees what he sees, but is utterly unable to record what he sees; all is wrong the moment he begins. The very chair he sits in is a puzzle of untold difficulty. He is brought face to face with that grand fact of the wondrous perfection of accurate power in the midst of which he has moved unknowingly, and he comes in sight of the highest truth that man can attain to, a perception of his own unconscious ignorance, utter incapacity, and clumsiness. A fresh secret leaps out of every leaf, there is not a pebble which is not turned into a world. The transformation which follows immediately the smallest child is made to Draw, and set to observe the what and the why in things, and attention turned on to the endless discoveries of ignorance which are disclosed in this way, is more rapid and complete perhaps than in any other exercise of mind."

In the Matriculation examination of the Calcutta University, Drawing is admitted as an optional subject; and success or

tion, or the position of the candidate in the list. If a candidate passes in that subject, the fact is simply notified by the University.

SECOND LANGUAGE.

To the second language list, I would suggest the addition of German. When we have admitted French among the classical languages, there is no reason why the claims of German should not be considered. It is not only a highly cultivated language, but it has done much for the advancement of the study of Sanskrit and Zend.

I would press upon the attention of the University authorities the claims of Marathi and Gujarati to be treated as classical languages. Even for the highest examination in Arts, *viz.*, the M. A. examination, the Madras University recognizes the following languages:—

I English, II Sanskrit, III Greek, IV Latin, V Hebrew, VI Arabic, VII Persian, VIII Urdu, and IX the group of Dravidian languages. Thus Madras by her recognition of the vernacular languages, even for the highest examination, has made a future of vernacular literature possible; while we, by our condemnation of them, have sealed the fate of vernacular literature.

The advocates of Sanskrit and other classical languages will say that if the vernacular languages are admitted to the rank of classical languages, students would flock to them. To obviate such a contingency, we might assign less marks for the vernacular languages, and make the course sufficiently high so as to deter indolent students from taking up these languages simply because they might be found to entail less study. If further precaution were necessary, it might be arranged that students taking up these languages should find no place in the First Division. But perhaps we exaggerate the fears of such a contingency, because we see that in Madras, Sanskrit and

Persian and other classical languages are taken up by a large number of students as well as the vernaculars.

In the Matriculation Examination, Elementary History and Geography and Elementary Science should form one group under the Head of General Knowledge, and should not form two distinct subjects as at present. In Calcutta, there is no Science paper at all. In Madras, Elementary History and Geography and Elementary Science form one subject.

When our University has appointed books for Astronomy and Chemistry, I do not see any reason why text-books for History and Geography should not be appointed. The subject of Geography is one on which much valuable time of school boys is wasted without any adequate benefit. I would, therefore, make general Geography only so far compulsory as it serves to illustrate History. A text-book on Physical Geography should be fixed by the University. The same may be said of History, especially English History. Uncertainty in the subject of examination leads boys to have recourse to all sorts of manuals, and much precious time is thus wasted. Of the numerous schoolbooks on this subject, Professor Ransome's Short History of England stands unrivalled for its lucid treatment of the political events, and its simplicity of language.

There should be two examinations only at the interval of two years each for the B. A. degree and not three. No other university—Indian or English—exact three examinations for the B. A. degree. The courses of the Previous and the Intermediate examinations should be thrown into one, and this single course should consist of the following subjects.

I English, II Classical Language, III Mathematics, IV Deductive Logic, V History, and VI Science (a) Physics, (b) Human Physiology, both elementary.

In the Calcutta University, the History course consists of the outlines of the History of Greece and Rome.

In the Madras University, the History course consists of the History of England from 1603, the History of Greece and the History of Rome.

In the previous Examination of our University only one History is required, *viz.*, either Greece or Rome. To give a connected knowledge of Ancient History, it would be better for us to follow the example of the Calcutta University with regard to this subject; because in our Matriculation Examination formerly four histories were required, and now only two are laid down, *viz.*, Histories of England and India. There are so many allusions and references to the Histories of Greece and Rome in English Literature, that a knowledge of one history only is not sufficient. But in order that the burden on the students may not unnecessarily increase I would suggest an elementary course, and not a full course in this subject.

Under the Science head, I have recommended two subjects, *viz.*, Physics and Physiology. In the Madras and Calcutta Universities, only one subject is required. In our own University one subject only is required; but for considerations which will be presently submitted to you, I beg to recommend both these subjects. While adding the subject of Elementary Physiology, I would suggest that the subject of Trigonometry be taken away from Mathematics, so that the burden on the students may not increase.

About the time when our University was founded, there was a hard fight in England between the old learning or the Humanities and new learning as the study of Physical Science was then called. Fortunately Physical Science had such advocates as Professors Huxley, Tyndall, Faraday, Drs. Carpenter, Hooker, Acland and Paget, and men like Herbert Spencer, Sir John

Persian and other classical languages are taken up by a large number of students as well as the vernaculars.

In the Matriculation Examination, Elementary History and Geography and Elementary Science should form one group under the Head of General Knowledge, and should not form two distinct subjects as at present. In Calcutta, there is no Science paper at all. In Madras, Elementary History and Geography and Elementary Science form one subject.

When our University has appointed books for Astronomy and Chemistry, I do not see any reason why text-books for History and Geography should not be appointed. The subject of Geography is one on which much valuable time of school boys is wasted without any adequate benefit. I would, therefore, make general Geography only so far compulsory as it serves to illustrate History. A text-book on Physical Geography should be fixed by the University. The same may be said of History, especially English History. Uncertainty in the subject of examination leads boys to have recourse to all sorts of manuals, and much precious time is thus wasted. Of the numerous schoolbooks on this subject, Professor Ransome's Short History of England stands unrivalled for its lucid treatment of the political events, and its simplicity of language.

There should be two examinations only at the interval of two years each for the B. A. degree and not three. No other university—Indian or English—exacts three examinations for the B. A. degree. The courses of the Previous and the Intermediate examinations should be thrown into one, and this single course should consist of the following subjects.

I English, II Classical Language, III Mathematics, IV Deductive Logic, V History, and VI Science (*a*) Physics, (*b*) Human

In the Calcutta University, the History course consists of the outlines of the History of Greece and Rome.

In the Madras University, the History course consists of the History of England from 1603, the History of Greece and the History of Rome.

In the previous Examination of our University only one History is required, *viz.*, either Greece or Rome. To give a connected knowledge of Ancient History, it would be better for us to follow the example of the Calcutta University with regard to this subject; because in our Matriculation Examination formerly four histories were required, and now only two are laid down, *viz.*, Histories of England and India. There are so many allusions and references to the Histories of Greece and Rome in English Literature, that a knowledge of one history only is not sufficient. But in order that the burden on the students may not unnecessarily increase I would suggest an elementary course, and not a full course in this subject.

Under the Science head, I have recommended two subjects, *viz.*, Physics and Physiology. In the Madras and Calcutta Universities, only one subject is required. In our own University one subject only is required; but for considerations which will be presently submitted to you, I beg to recommend both these subjects. While adding the subject of Elementary Physiology, I would suggest that the subject of Trigonometry be taken away from Mathematics, so that the burden on the students may not increase.

About the time when our University was founded, there was a hard fight in England between the old learning or the Humanities and new learning as the study of Physical Science was then called. Fortunately Physical Science had such advocates as Professors Huxley, Tyndall, Faraday, Drs. Carpenter, Hooker, Acland and Paget, and men like Herbert Spencer, Sir John

Herschell and Sir Charles Lyall, men in no way inferior to the most distinguished scholars, Mathematicians and philosophers in the grasp of their several subjects, or in logical faculty, mathematical accuracy, philosophical depth, and power of eloquence. They pleaded the cause of Physical Science nearly forty years ago and they triumphed; and England this day reaps the fruit of their devotion to Science. History repeated itself here in India. Thanks to the sagacity of Sir Richard Temple, we have a course in Science. But what I plead before you, gentlemen, is the necessity of teaching the Science of Health. The appropriateness of the subject cannot be questioned. The question of University Reform had its origin in the apprehensions created by the heavy death-rate of our graduates, and I may well ask if the ignorance of the laws of life and health is not a fruitful source of much human misery and loss of life. While pleading the cause of this science more than forty years ago, Dr. Paget said :—

“Though it might be impossible to teach more than a small
 Dr. Paget on the impor- part of the whole body of physiology,
 tance of Physiology. yet one who had learned even this part
 would have a better apprehension of the rest than one untaught
 could be. One, who had learned the general mode of study,
 and the labour which is spent in ascertaining physiological
 truths, and the great probability that what is generally accepted
 is at least nearly true, would, more than an untaught man,
 act on the advice of those who are instructed. Thus acting,
 he would, as a citizen, be no hinderer of improvements, no
 block of utter ignorance in the way of amending the sanitary
 condition of his fellows; with belief, if not with knowledge,
 he would give his help to good.”

Does the study of physiology exercise any moral and religious
 influence on the mind? Now this is an important question

gious and moral beliefs of the people of India, especially, the educated class. I shall have to refer to this question again later on; but in the meanwhile I shall answer this question in the words of Dr. Paget.

“But I have yet to speak of that through which, I believe, the general teaching of physiology would exercise the greatest influence upon the mind, namely, its being essentially a science of designs and final causes.”

..... “I would, therefore, have physiology taught to all as a study of God’s designs and purposes achieved; as a science for which our natural desire after knowledge of final causes seems to have been destined; as a science in which that desire, though it were infinite, might be satisfied; and in which, as with perfect models of beneficence and wisdom, our own faculties of design may be instructed.” He further said:—“The student of Nature’s purposes should surely be averse from leading a purposeless existence. Watching design in every thing around him, he could not fail, one would think, to reflect often on the purpose of his own existence. And doing so, if his mind were imbued with the knowledge of the mutual fitness in which all the members of his body, and all the parts of the whole organic world, subsist, and minister to each other’s good, he could not conclude that he exists for his own sake alone, or that happiness would be found separate from the offices of mutual help and universal good will. One who is conversant with things that have a purpose in the future, higher than that which they have yet fulfilled, would never think that his own highest destiny is yet achieved.”

For this and other examinations, if the principle of examining
 The B. A. Degree course. by instalment is admitted, as is done
 in English Universities, it should be
 consistently carried out in all degree examinations. It might
 be ruled that if a candidate passed in any subject in the second

class, he should be exempted from examination in the same subject in any future examination. This will lighten the burden on the student without making the University Degree too easy, and this will make the student all the better grounded in the remaining subjects. Should this course appear objectionable, I have an alternative course to submit for your consideration. This alternative appears to be a sensible one, and it is adopted by the Madras University. The B. A. Degree course should be divided into two sections, I, Language branch or the compulsory subjects, and II, Optional branch or the voluntary subjects. No candidate should be allowed to appear for an optional branch until he had passed in the Language branch; but having passed in that branch he should not be required again to present himself in that subject in order to qualify for the degree. The advantage of this rule is that, in case of failure in the optional branch, a candidate can devote his whole attention to his optional subject.

The B. A. course might be divided into a Pass Course and Honours Course, as is done in the Calcutta and English Universities.

The B. A. Course should consist of the following subjects:—
I, Language branch, (a) English, (b) Classical language, II, optional branch—one of the following:—

- (a) Mathematics and Natural Philosophy as in Madras;
- (b) Physical Science as in Madras;
- (c) Natural Science;
- (d) Geological Science;
- (e) History and Political Economy; and
- (f) Mental and Moral Science as in Madras.

The subject of Mental Science has been recognised long since by the Universities of Calcutta and Madras, while our University only lately recognised it, and that in a grudging

the B. Sc. course, and not among the Arts course to which it really ought to belong. The importance of the study of Mental Science to the teacher has not received that attention which it deserves in our University. Complaints were made as early as 1866 against cramming and crammers; but a deep thinker like Sir Henry Maine looked at this question from a different point of view. He said in his speech as Vice-Chancellor at Calcutta in 1866 :—

“I am afraid it must be allowed that no art of equal importance to mankind has been so little investigated scientifically as the art of teaching. No art is in the hands of practitioners who are so apt to follow so blindly in the old paths. I say this with the full recollection that there has been great improvement in England lately, and that the books of teaching, most in use, have been purged of many gross errors both of statement and method. But one line of enquiry there is which has never sufficiently been followed, though one would have thought it antecedently the most promising of all,—the study of the human mind through actual observation, and the study of the expedients by which its capacity for receiving and retaining knowledge may be enlarged. The field of investigation has been almost wholly neglected, and therefore it may just be that we are on the eve of discoveries in Education, and that the processes of these teachers are only a rough anticipation of the future.”

Dr. Duncan, the learned Director of Public Instruction in his report in 1889 said with regard to the importance of the subject of psychology :—

“As to the not uncommon assertion that psychology is but an aggregate of guesses or conjectures more or less crude, and that it can never be anything else, I shall only say that this science either contains

a considerable body of well-ascertained facts and principles of the utmost value to the teacher, or it does not. If it does contain such facts and principles, it is all-important that the teacher should acquaint himself with them; if it does not, it is idle to speak about a *system* of education—whether intellectual or moral,—idle therefore to discuss whether it can be improved, there being no other foundation for a system of education than the phenomena and laws of mind.”

For the M. A. examination, I would recommend the Madras course, that is, one of the following subjects.

The M. A. Degree course,

- I. One of the Classical languages, English being one of them;
- II. Mathematics and Natural Philosophy;
- III. History and Political Economy;
- IV. Physical Science;
- V. Natural Science; and
- VI. Mental and Moral Science.

You will agree with me, gentlemen, that in the highest examination in Arts a thorough mastery should be aimed at and that in the short space of one or two years two languages cannot be studied so well as one.

The subject of History and Philosophy is a large one and therefore it is split up into two, *viz.*, History, and Mental and Moral Science. Each subject by itself is sufficiently large and would require the undivided attention of the candidate.

While dwelling on the importance of the study of Physiology I referred to the influence of Western Civilization on the religious and moral beliefs of the people of India, especially of the educated class. Mr. Cotton, a sincere wellwisher of the natives, in his *New India*, speaking of the moral crisis, says with regard to the religious tendency of the educated natives:—

“Our state colleges are content with chaos; their results are subversive only; the old belief is thrown off, the consequent disturbance issues in no real substitute, and the mental and moral state suffers from the Negation.”

As the subject is a delicate one, I shall content myself with simply drawing your attention to it. I shall only add that the Calcutta University has included a course in Natural Theology in the Mental and Moral Science group for the B. A. and M. A. examinations. The books prescribed for the latter examination are:—I, Caird's Introduction to the Philosophy of Religion, II, Martineau's Study of Religion, and III, Max Müller's Hibbert Lectures on the Origin and Growth of Religion as illustrated by the Religions of India.

Gentlemen, you will allow me to say that the work of the teacher is so important that it should be recognised by the University as a distinct and learned profession. Our University should institute an examination for the degree of Licentiate of Teaching (L. T.) as is done at Madras. Madras grants this degree to graduates intending to follow the profession of teaching. The university requires each candidate for the L. T. degree to forward “a certificate of having attended a full course of two terms at a Normal Institution authorized in that behalf by the Governor of Fort St. George in Council, or of having attended a full term at such Normal institution and having thereafter practised his profession for a period of at least six months. By special order of the Senate exemption from the production of such certificate may be granted in the case of persons who have, for a period of ordinarily not less than two-and-a-half years, been continuously on the regular teaching staff of a high school or college.”

The examination is both theoretical and practical. The theoretical portion of the examination includes I, Principles of

Education, II, History of Education in Europe from the rise of Universities to the present time, and III, Methods of Teaching and School management.

The Madras Educational Department has got a separate college for the special training of teachers. In these days of economy we cannot expect Government to establish such a college. Under these circumstances our University should hold an examination in the theory of education and grant the degree of L. T. to those who pass the test, provided the candidate produces a certificate from the Head of a college or a First Grade High School recognised by the University for the purposes of the examination that the candidate has continuously worked as teacher for full two years and is able to teach up to the seventh standard. To induce graduates to proceed for this examination, the Educational Department might reserve higher appointments for the successful candidates, such as Deputy Inspectorships, Head-masterships, and other appointments over one hundred Rupees.

The Madras University took this important step under the guiding influence of Mr. Grigg and Dr. Duncan, the Directors of Public Instruction. They have done a great service to India by raising the work of the teacher to the dignified position of a learned profession. Mr. Grigg, the then Director of Public Instruction said in his report for 1882-83 :—

“The absence of instruction in the science of education and in the history of education has had a prejudicial effect on the standard of teaching in Government and private schools, and it has led to the profession of teacher being looked upon rather as a means of securing admittance to more congenial occupations than as a distinct and honourable profession. To remedy these admitted

Mr. Grigg on the training of teachers.

defects, I proposed early in this year to institute a course of weekly lectures in the Madras Normal School on the subject of Psychology in relation to education, viz., the scientific basis of education, the second in the general history of education in Europe, more especially since the revival of learning, and the third with the object of developing the present course of study in Method and School management. These proposals, which were more or less in accordance with the schemes adopted by the universities of Cambridge and London, were sanctioned by Government, and Dr. D. Duncan, M. A., Professor of Psychology and Logic in the Presidency College, was requested to deliver the psychological course, and the Rev. A. Alexander of the Madras Christian College the course in history, both these gentlemen having paid particular attention to these subjects. The acting Principal, Mr. G. Duncan, has undertaken to deliver the last course."

Five years after this the Madras University held the first examination for the degree of L. T. When the Government of India called for reports from local governments on the subject of Discipline and Moral Training in schools and colleges, and invited suggestions for their improvement, some of our educational officers reported against the idea of special training for teachers. But in Madras it was different. Dr. Duncan, the then Principal of the Presidency College and the present Director of Public Instruction, reported in 1889 not only in favour of it, but strongly insisted upon special training for teachers. He said:—

"I should like to see more generally recognised among teachers the necessity for some scientific knowledge of the structure and functions of the mind of the young. We do not allow the men to practise the medical profession without proof that they know something

Dr. Duncan on the training for teachers.

“ While many have maintained that a University education is a sufficient training for a teacher, the *preponderating* opinion in the Commission was that some special training in the principles and practice of teaching is requisite, and the Commission recommend the institution of a public examination on this subject. This would allow a certificate of qualification for the office of teacher to be secured without insisting on any one going through a fixed course of attendance at a normal school. Teachers in secondary schools should be certified in some way. The making of teaching an honourable position should be aimed at, and teachers whether in Government or aided schools should have the same prospects.”

This recommendation was made thirteen years ago. I venture to ask if this recommendation of the Education Commission has received any serious attention either from the public or the University. Our University has complained from time to time of raw boys in the Entrance and Higher Examinations. Now what does that signify? It means that teachers in our schools and colleges are not doing their work properly. The teachers are supplied by the University, and if the University never thought of making teaching a special and honoured profession, the fault lies with it, and not with the students or the teachers. Consequently there is an amount of waste of mental energy in our educational institutions, which those who have paid no special attention to this subject can never realize. The result of this defective system is that our boys fail in examinations or they fail in health or what is worse still they fail in both.

Now those, who are pleased to remind us that our University was founded on the plan of London University, will bear in mind that London has considerably modified its system in

accordance with changed circumstances. We on the other hand
 Professor of Education in London. are in a state of stagnation. In 1873
 London took the important step of found-
 ing a Professorship of Education, and Mr. Joseph Payne was the
 first Professor of Education. Cambridge followed the example
 of London. "By Grace of the Senate, February 20th, 1879,
 Teachers' Training Syndi- the Teacher's Training Syndicate was
 cate in Cambridge. appointed to organise courses of lectures
 on the Theory, History and Practice of Education, and to organise
 and superintend Examinations in the same subjects, and to
 award certificates of proficiency on the results of the Examina-
 tion." Madras has been the first in India to follow the example
 of London and Cambridge. One of the resolutions of the
 Convocation of London University passed in 1893 was:—

"That it is desirable that this University should recognize,
 Resolution of the London University for a high examination in Education. by the institution of a high degree, that
 considerable and important branch of
 knowledge that has received so much
 development during recent years in connection with the
 scientific study of education and it be referred to the annual
 Committee to consider a scheme for such degree and report to
 the next meeting of Convocation."

Gentlemen, in pleading the cause of Science and Art Educa-
 tion I must say I hold no brief from my professional brethren.
 Perhaps, if they were called upon to vote to-day, many of them
 would vote against my proposal. But I speak from personal
 experience and conviction. I am not ashamed to confess before
 you that during the course of 18 years I have on more than one
 occasion felt inconvenience arising from the want of knowledge
 of the Principles of Education in dealing with various classes of
 students—the quick, the plodding and the dull. I cannot say

if others have felt the same inconvenience. I plead the cause of your children and that of the future generations.

It would be better if our Alma Mater were to hold a higher examination in Law, such as the examination for the Master of Laws (M. L.) of the Madras University or Doctor of Laws (D. L.) of the Calcutta University.

The Law Course.

The faculty of Medicine is so important that I would like our conservative University to follow the example of the more progressive University of Madras. Our University should hold examinations for the M. B. degree and Licentiate of Sanitary Science on the plan of the Madras University, which is a sensible one.

The Medical Course.

In the faculty of Engineering there should be three examinations, viz., L. C. E., B. C. E., and M. C. E. The Madras course of Bachelor of Civil Engineering in its twofold division—Mechanical and Civil Engineering is worthy of our adoption.

The Engineering Course.

Calcutta and Madras Universities have no separate Degree for Science, the studies of this subject being included in the Arts course. Our Science Degree is of recent date and we owe it to the zeal of Sir Richard Temple for Science. He said :—

“Gentlemen, the exclusive devotion to Mental and Moral Philosophy as contradistinguished from Physical Science, and without sufficient subjection to the discipline of severe studies, such as Logic, Mathematics and Science, is apt to develop the very faults to which your mental constitution is prone. The imaginative faculties rise and spread so as to overshadow the reason; idealistic power flourishes so exclusively as to draw the vigour away from the realistic faculties.” Such was the object aimed at in the institution of a separate degree for Science.

But Professor Middleton of Baroda thinks that this object has not been attained. He has been pleased to favour me with his remarks on the course for the B. Sc. Degree examination, and I beg to quote them as they are worthy of your consideration.

“The syllabus prescribed for the B. Sc. examination is too lengthy for a three years course and as a consequence the pass standard is too low. Better results would be obtained by limiting the subjects students are expected to know, and by demanding a more thorough knowledge of the work professed. The object of founding a Science Degree in Bombay was to encourage the training of what Sir Richard Temple, in the portion of his address you quote, calls the ‘realistic faculties.’ A Science training was to combat the exclusively idealistic tendencies of the Oriental mind. I fear that Science has not been very successful and that in most cases the Oriental mind has found it easier to tackle the new subject in the old way, *viz.*, to “*learn*” science and to pass examinations with the help of the text-book and the memory, rather than to strike out a new path and ‘*study*’ science in the laboratory and the field. The majority of those who now take the B. Sc. of Bombay would in my opinion be more fittingly rewarded with an arts diploma, inasmuch as the passing of their examinations implies a certain amount of talent, a good memory and a sufficient knowledge of the English Language, but does not prove that they have studied science in a scientific way.”

Regarding the Agriculture course he says :—“The same sort of criticism might be made on most of those who appear for the Diploma in Agriculture Examination. Their knowledge is ‘literary’ not scientific. I do not think that students who have spent three years in studying the science of Agriculture

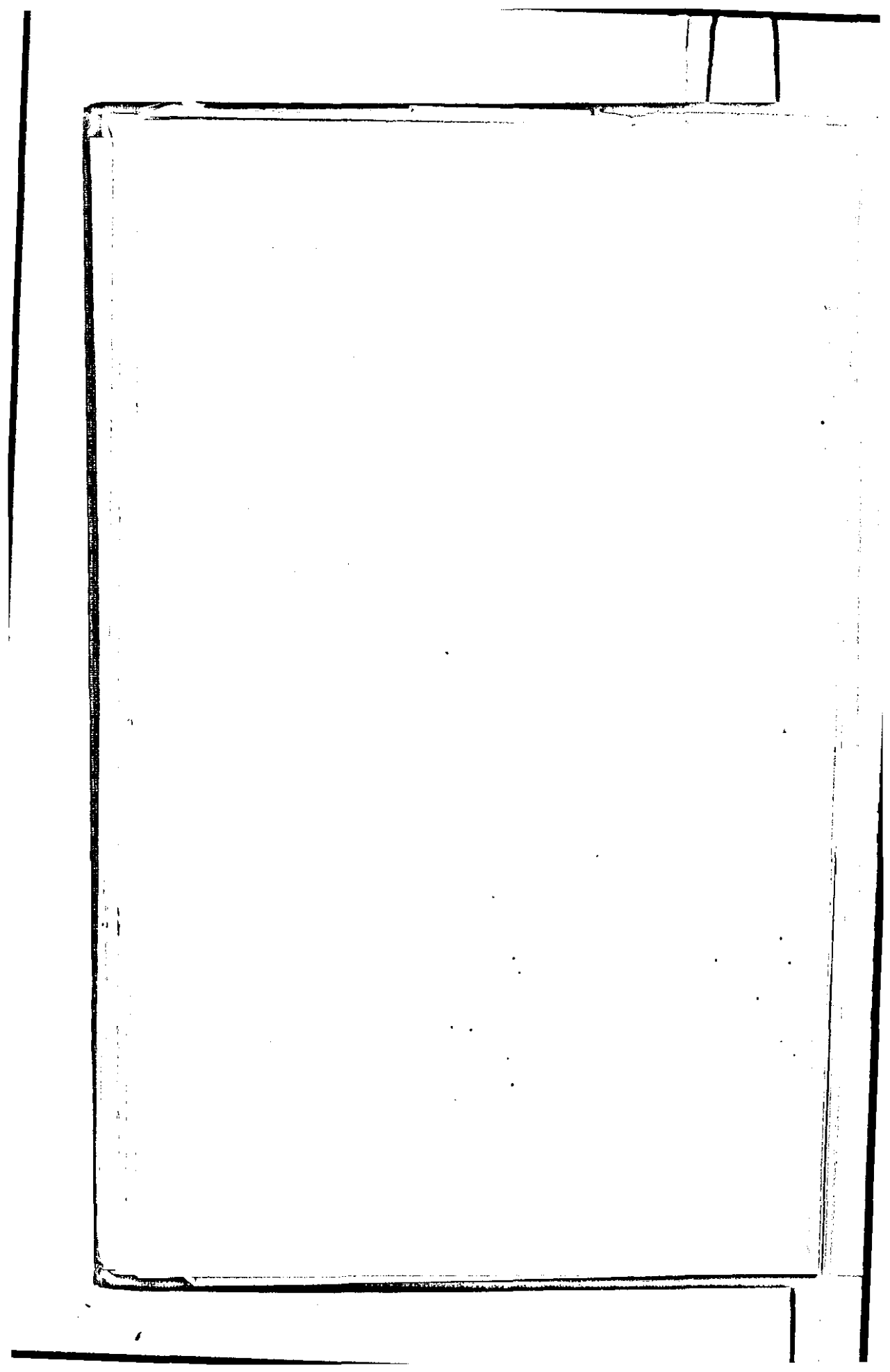
Professor Middleton on the
course for Diploma in
Agriculture.

can be versed in the technicalities of the Art, but they ought to have a sufficient acquaintance with the condition under which practical farming is carried out in this country to understand the bearings of science on Indian Agriculture, and this knowledge very few of them possess.

“The Diploma in Agriculture I do not consider satisfactory ; it does not confer any of the privileges of a degree and therefore will not attract the best class of students, and at the same time the standard of knowledge and the cost of the education is much higher than can be expected of those who wish to adopt agriculture as a means of livelihood. Instead of the Diploma I should like to see the Agricultural course or part of it merged into a science degree, a degree in which the special requirements of the Revenue officers of Government would be taken into account. Unless the India Government finds it to its advantage to encourage the study of agriculture among those who are to be its servants, scientific agricultural education can never gain a footing in this country.”

Gentlemen, there are two principles in nature—the conservative and the liberal ; both are essential, the one for the stability the other for the progress of the world. I respect that conservatism, which springs from an honest conviction and impartial judgment from a full knowledge of the circumstances of the case ; but I have no sympathy and little respect for that spurious conservatism which refuses to see beyond the present, and which arises from blind prejudices and indolent habits of mind. I shall not anticipate your judgment in a matter which concerns not only the honour of the University, but its collective wisdom and the welfare and progress of the future generations.

Regarding reforms in Education Professor Hale's words are
 Professor Hale on Reforms in Education. so sensible and so moderate that I cannot help quoting them.



APPENDIX.

EDUCATION AND THE PEOPLE.

I*

There are people, who think that Higher Education should not spread among the people; they wish to see Higher Education made dear and difficult and restricted to a limited number. They suppose that Higher Education, if restricted, will attract students, who love learning for its own sake and not for the prizes it offers. Now let us examine this statement, which is put forth so confidently, in season and out of season, by the light of past experience.

We ask how many sons of richmen have taken degrees and devoted themselves to learning for its own sake during the 36 years' existence of our Alma Mater. Dr. Bhau Daji and Professor Kero Lakshman were not richmen's sons. We venture to say that neither our learned Vice-Chancellor, who has shown such intellectual activity in his own line, nor the the Hon'ble Mr. Justice Ranade will claim to be sons of richmen. Neither our youngest M. D., Dr. Bahadurji, the Hon'ble Mr. P. M. Mehta nor the Hon'ble Mr. Dadabhai Naoroji, M. P. will claim to be richmen's sons. What is the past history of our best men and what moral does it point to? Hitherto sons of poor or middling parents either fired by ambition or pressed by necessity, have toiled and toiled hard without taking thought of health or life. We can safely say that this applies to the generality of our students, excepting cases here and there.

* This and the following article have been repinted from the Gujarat Mitra in which they originally appeared last year.

Now suppose our University followed the advice of those who are for making Higher Education dear and difficult and restricted to a smaller number; suppose, also our University produced a few eminent men. There would be thus two extremes in a community—a few illustrious men on the one hand, and the mass of the people plunged in darkness on the other. Is such a condition desirable in a people? At the time of the French Revolution eminent men were not wanting; but the masses of people were neglected, uneducated, and oppressed. The reign of terror was not the result of the light of education and refinement of feeling among the people, but the reverse. America has not yet produced a Shakespeare, a Milton, a Darwin or a Newton, but there is a general diffusion of knowledge and education among the people, and consequently the Americans, on the whole, are far better off than any older European Nation. Does England think of restricting Higher Education to the rich or very earnest students only? What is the history of the University Extension Scheme? During the year 1889-90 the

University Extension Scheme.	average attendance at the lectures at the four centres was 42,312 and the
---------------------------------	--

number of certificates awarded was 3,927. How can those who advise us to restrict Higher Education among us be blind to the progress of it in their own country and in other civilized countries. To us the lesson of history is plain. The greater the number of intelligent people in a country and the higher the level of average intelligence, the higher will the people stand in the scale of civilization and the more successfully will they compete with other nations. Our customs, our manners our social institutions, our educational and political institutions, our trade, our commerce, our arts, our literature and our religion, all depend on the average intelligence of the people. Whether in peace or in war, a more educated people must win in the

battle of life. This is well illustrated by the remarks of Quick on Pestalozzi in his "Essays on the Educational Reformers."

"We have seen that the First Emperor Napoleon "could not be bothered about questions of A, B, C." His was the pride that goes before a fall. On the other hand the Prussian Government, which he brought to the dust in the battle of Jena (1806), had the wisdom to perceive that children will become men, and that the nature of the instruction they receive will in a great measure determine what kind of men they turn out. How was Prussia again to raise its head? Its rulers decided that it was by the education of the people. "We have lost in territory," said the king; "our power and our credit abroad have fallen; but we must and will go to work to gain in power and in credit at home. It is for this reason that I desire above everything that the greatest attention be paid to the education of the people." * * * * *

The king of Prussia on the importance of the education of the people.

"So in the day of humiliation Prussia seriously went to work at the education of the people, and this she did on the lines pointed out by Pestalozzi. To him they were directed by their philosopher Fichte, who in his *Addresses to the German Nation* (delivered at Berlin 1807-8) declared that education was the only means of raising a nation and that all sound reform of public instruction must be based on the principle of Pestalozzi."

Fortunately while the rulers wisely decided to educate the people, there arose among the German Nation an enlightened and far-sighted patriot, named, Friedrich Ludwig Jahn, the father of Modern Physical Education. The battle of Jena had decided the fate of Prussia and Germany, and the Fatherland lay bleeding at the feet of Napoleon.

"But Jahn, like his friend Moritz Arndt, and thousands more among his countrymen, would not yield to despair. He laboured

as a teacher in influential colleges, and was indefatigable as an author. In 1810 he published his work on "German Nationality" (Deutsches Volksthum); and it was in the same year that he first put in practice the plan of drilling large companies of boys in gymnastic exercises. In 1811 he opened in Berlin, on the "Hasenhaide," the gymnasium which afterwards became so celebrated, and so important in its results; being indeed, the Alma Mater of all the gymnasia subsequently established in Germany, which again in their turn gave rise to numerous others elsewhere. Jahn was, moreover, the originator of the well known meetings or gatherings of the different societies, at variously chosen places, for the purpose of competition in their art; and the German youths, by their marches to join these gatherings, as well as by their training in the gymnasia, were soon fitted to meet the earnest conflict of real war which was before long to call forth their energies."

Two generations after the battle of Jena, Germany was again called upon to vindicate her honour and defend herself against the aggressive attack of France. The result of the conflict of 1870 is a matter of history. There is no doubt that this result was partly owing to the wisdom of her rulers; and partly to the far sighted patriotism of Jahn. This conclusion is supported by the following facts.

"The number of their societies (gymnastic) amounted, on the 1st August, 1869, to 1360, comprising 1,10,353 members. Of these societies 1051, with their 81,737 members, attest their activity during the war. Of these members 14,909 were summoned to join their regiments; and, of these latter, 11,591 were on duty in the enemy's country, 1243 were wounded, 617 were killed or died of their wounds, 191 succumbed to disease or fatigue, 580 were decorated with the iron cross, 1119 attended upon their sick and wounded comrades, in the enemy's country. Of the total

number 59.61 per cent. were between the ages of 21 and 30." Let us see what Dr. Schaible has to say on Physical Education from whose excellent essay we have quoted the above passage. He says :—

“The student of history must observe that whilst mankind has made enormous advances in civilization in general, it has, in some respects, gone backwards. This is especially the case with regard to physical education. The educational principles of the ancients, so entirely in harmony with the constitution of man, have been gradually abandoned. It is true that much has been done especially in our own time, for some branches of education. But, with all the endeavours made to advance intellectual education one thing seems to have been overlooked—that man has a body, which stands as much in need of development as his mind. While attention has been bestowed almost exclusively on the latter, the former has been left to natural instincts, and dependent upon the accidental course of bodily occupations. Thus, a kind of estrangement has sprung up between mind and body; the mind, regardless of its partner, has soared aloft into regions of ideal life, while “the temple of the spirit” has been like a neglected dwelling, allowed to fall into premature decay.”

* * * * *

“In higher educational institutions, where the demands on intellectual activity are far higher than elementary schools, the mind is still more burdened; and, after the hours devoted to instruction, little time remains for systematic and regular exercises for all, during all seasons and weathers.

“What are the consequences of such an unnatural and defective education? A premature and excessive straining of the mind engenders precocity, and thereby moral and physical development is arrested. The entire vital activity is directed to the brain, which thus receives premature and one-

sided development. The excessive amount of vital force absorbed by the brain is taken away from the other parts of the body, and an early cessation of growth is the consequence. This produces men unfitted for exertion and the battle of life, who too often, after a sickly life, fall into an untimely grave. Depression of the heart, irritability of the nervous system, weak digestion, rheumatism, consumption, vertigo, curvature of the spine, and a host of other diseases, are increasing among our present generation, in consequence of sedentary habits of life, insufficient exercise, and muscular weakness. Especially do the evil consequences of neglect of physical development show themselves in the female sex, among whom bodily exercises are entirely neglected, except in the richer classes. The changes introduced by modern life have a deteriorating influence on the race."

* * * * *

"The injurious consequences of such a mode of education are felt in the State and in the family; in a political, social, and military respect. Many more evil consequences of exclusive mental training might be mentioned. It must not be imagined, however, that I speak of our present intellectual education as excessive. Let us develop the mind in a natural and comprehensive manner, at the right time; but let us aim, at the same time, to establish harmony between mind and body. The power of intellect alone will not suffice us in time of need; intellectual attainments alone will not secure our happiness; we must also have health, strength, bodily skill, and firmness of will.

"We need a change in our system of domestic and school education. Out of school hours our youths should be led to the gymnasium, there to develop their physical powers, to renew their spirits, and arouse their youthful ardour in methodical exercises and games."

Change needed in our
system of domestic and
school education.

EDUCATION AND THE PEOPLE.

II

It now remains for us to enquire as to the effect produced on the Indian Society by a few hundred graduates turned out by our Alma Mater. We ask—is not improvement in the Judicial and Revenue Service and other departments of Government owing to them? Has not Government acknowledged this from time to time? Does commercial and industrial activity owe little to the diffusion of education among the people? Are not Social Reforms owing to Higher Education? Have not our graduates brought about a revival of Sanskrit learning? Is not the new religious movement owing to our University graduates? On the other hand, is not the state of ignorance of the masses a serious obstruction to the progress of the people and a standing menace to Government? Are riots, mutinies, and revolutions the result of intelligent guidance or stupid deluded ignorance? How many educated persons took part in the Indian mutiny? We ask how many members of the Graduates' Association or members of our University took part in the late riots between the Hindus and the Mahomedans, which gave Government so much trouble and anxiety. Every sensible reader will allow that the greater the development of intelligence, and the greater the moral control, the more complete is the subjugation of the brutal passions of mankind. But not-withstanding this, people will croak warning to us of political danger arising from the spread of Higher Education. Fortunately the objection of such deluded or selfish people has been anticipated and answered by Foster, the great essayist, in his well-known work—"the Evils of Popular Ignorance." He says:—

Higher Education and its effect on Government Service and the Indian Society at large.

“ We think such considerations as the above opposed to the
 objection that any very material culti-
 Foster on the Evils of Popular Ignorance. vation of the minds of the common
 people would destroy their industry in ordinary employments,
 their contentment with their station, and their respectful
 demeanour to their superiors; and would render them arrogant,
 disorderly, factious, liable to be caught by wild notions, misled
 by declaimers and impostors, and in short, all the worse for
 being able to understand their duty better, ought to go far
 towards convicting that objection of great folly—not to apply
 terms of stronger imputation.

“ But we need not have dwelt so long on such arguments,
 since fortunately there is matter of fact in answer to the objec-
 tion. To the extent of the yet very limited experiment, it is
 proved that giving the people more knowledge and more sense
 does not tend to disorder and insubordination; does not excite
 them to impatience and extravagant claims; does not spoil
 them for the ordinary business of life, the tasks of duty and
 necessity; does not make them the dupes of knaves; nor teaches
 them that the most profitable use of their improved faculties
 is to turn knaves themselves. Employers can testify, from all
 sides, that there is a striking general difference between those
 bred up in ignorance and rude vulgarity, and those who have
 been trained through the well-ordered schools for the humble
 classes, especially when habits at home have been subsidiary;
 a difference exceedingly in favour of the latter, who are found
 not only more apt at understanding and executing but more
 decorous, more respectful, more attentive to orders, more ready
 to see and acknowledge the propriety of good regulations, and
 more disposed to a practical acquiescence in them; far less
 inclined to ebriety, and low company; and more to be depended
 on in point of honesty. In almost any part of the country,
 where the experiment has been zealously prosecuted fo

moderate number of years, a long resident observer discerns a modification in the character of the neighbourhood ; a mitigation of the former brutality of manners, a less frequency of brawls and quarrels, and less tendency to draw together into rude riotous assemblages."

If the prophets of political danger mean to say that as Higher Education advances there will be a more sharp fight for the "loaves and fishes" of Government Service between the children of the soil and the members of the ruling race, we cannot deny them the gift of prophecy. But if they venture to predict any danger to the stability of the British rule in India through Higher Education we cannot help calling them deluded maniacs. Looking to the physical features, the past history, the various races and the numerous faiths peopling the vast peninsula, India seems destined to be ruled by a foreign power. Happily that power is the British Nation—the mother of American and Australian peoples ; and it is the proud privilege of India to form part of the British Empire. So long Britain governs India with a sympathetic heart, an enlightened self interest, and a strong sense of justice and responsibility, no power on the earth would be able to snatch from Britain the brightest jewel in the crown of the British Queen. The educated natives fully understand the benefits of the British rule, but Englishmen also should show their appreciation of the value of their Indian possessions. Englishmen not actually engaged in the administration of this country and not connected with either party in England show a better appreciation of the value of India to England than Indian Administrators or Englishmen at home biased by party politics. Professor Ransome in his lectures on "the Colonies and India" shows how clearly he understands the great value of India to England. We make a few extracts from his excellent lectures on India in the same work.

“ Let us now turn to the value of our present Indian trade.

Professor Ransome on the
importance of India to
England.

The total exports of British produce from the United Kingdom are valued at £ 240,000,000 a year ; the total value of our exports of British produce to India is £ 32,000,000 *i. e.*, more than one eighth. This sum does not include £ 6,000,000 of treasure, and £ 30,000,000 of foreign produce, which gives employment to our shipping, though it does not give work to our manufacturers. £ 320,000,000 therefore, represents the amount of English goods for which we find a market in India. That is, it is worth £ 5,000,000, more to us than the United States, and a third again as much as Australia.

“ The most important articles of this trade are cotton, metals, machinery, railway plant, woollen goods, and coal. Of these, cotton is the most valuable. In 1882-83 our whole export of cotton from Lancashire was worth £ 76,000,000 ; of this India £ 25,000,000, that is, India is worth as a customer to Lancashire half as much as all the rest of the world put together. Of the next importance is the metal trade worth £ 6,000,000. This includes cutlery from Sheffield and Birmingham, and copper from Swansea. Next, machinery, and of this we sent £ 1,750,000, chiefly from Leeds, Manchester and Glasgow. Next, railway plant, valued at £ 1,500,000, chiefly from Leeds, Middlesborough, Sheffield, Birmingham, Barrow, and Bristol. The trade in woollens is worth £ 1,250,000, to West Riding of Yorkshire, and the coal trade of £ 1,000,000.

“ These figures will show you how valuable our manufactures for India are, and how many towns are interested in them ; in fact, the number of orders from India is one of the most important items in the prosperity of our great manufacturing towns.

“ Let us now turn to our imports from India. Of these the most important are cotton and grain. Last year India sent to

England 10,000,000, cwt. of wheat, whereas ten years ago it sent about 1,000,000. In regard to the trade in wheat it is important to notice that its extent depends on the following circumstances: (1) abundant crops in India; (2) crops falling below the average in the United States and Europe; (3) low rates of freight; (4) low rates of exchange. The Blue Book of March, 1885, tells us:

“When all these exist together the supply of Indian wheat which will be put on the consuming markets will astonish, as they have astonished, those who were but imperfectly acquainted with the capacity of India for the production of this grain.” That is to say, that if any great calamity should befall the wheat crop in the United States, or if we and the States should go to war, the amount of wheat which India would be able to supply is immense. It is no exaggeration to say that so long as we hold India, and the Suez Canal is open, we need never fear dear bread.

* * * * *

“It is no wonder that the export of wheat and cotton is steadily growing, and it will grow still more in the future. India will be the more developed as a market for our manufactured produce, and as a store-house of raw materials and grain, the further our perseverance carries us along the road we are now pursuing. The more the people of India make the more they will buy; the fact that the demand for boots and shoes has doubled in the last five years is a proof that European luxuries are coming within their reach.”

* * * * *

“Now suppose for a moment that we were expelled from England’s position without India. What would happen? Would things go on as they are? Certainly not. In the first case, a terrible blow to the purchasing power of India would be struck in the desperate

struggle that would certainly ensue before we were defeated; and after we were gone, Russia would certainly endeavour, by hostile tariffs, to cut us and our Colonies out of all share in what trade might be left. In the second case, our abandonment of India would certainly be followed by an anarchy such as on a small scale followed the withdrawal of the Romans from Britain, 1,400 years ago. In it all the work we have done for the material prosperity of the country would disappear; capital would fly before its attacks; and the commercial prosperity of India, built up with so much toil, would perish like a dream.

“I need not picture to you the terrible results to England of such a catastrophe. We know something of bad times. No *bad times* that we have ever known would be even a shadow of what would ensue. Lancashire would be utterly ruined; Yorkshire would feel a terrible blow, and I hope you will agree with me that when we think of what value India is to us in the present, and what a mine of wealth it will be to our children and grandchildren, that any one who even for moment suggests indifference to its fate, or stints his hand in doing what is needful for its maintenance, is trifling with the wellbeing, not only of his fellow-citizens, but of millions yet unborn.”

There is another point of view from which the spread of
 Political rights and Education. education among the people seems a necessity. The foundation of Local self-government was laid by the enlightened Lord Mayo. But it was reserved for the catholic-hearted Ripon to give a practical effect to, and advance the scheme of, Local self-government. The British Parliament lately passed the Indian Councils Act, recognizing the principle of representation; and Local Governments have been forced to carry out *nolens volens* the provisions of the Act. Now the principle of Local self-government and representation is intimately bound up with the question of the

education of the people. It was doubtless this view which induced the late conservative government of Lord Salisbury to pass the most radical measure—the free education of the people.

From whatever point of view we consider the subject of education, we find that it is necessary for the welfare of the people and the stability of Government. All civilized nations have wisely recognized this necessity and are doing their utmost to advance the education of the people in all directions. We hope our Indian statesmen will not be slow in recognizing this prime necessity and will not grudge expenditure on it. If only one-tenth of the money that is spent on the frontier fortifications and the military department were spent on the education of the people, England could raise a living wall to oppose the enemy and India would prove a tower of strength to England in her hour of need ; she could, then, safely laugh at the threat of any foreign power instead of always fearing the power of Russia like the sword of Democles. Let our Indian statesmen, then, so shape the laws for the mutual benefit of England and India that our children's children may point with pride to them as men, who

“ Knew the seasons when to take
 “ Occasion by the hand, and make
 “ The bounds of freedom wider yet
 “ By shaping some august decree,
 “ Which kept her throne unshaken still
 “ Broad-based upon her people's will.”

OPINIONS
ON
THE WANTS AND CLAIMS OF EDUCATION IN INDIA
BY A TEACHER.

“One of the most suggestive pamphlets which I have ever read on the subject is an anonymous brochure written by a gentleman, who merely signs himself a teacher.”

W. W. HUNTER, I. C. S., C. I. E., LL. D.

“A thoughtful and well written paper.”

W. LEE-WARNER, I. C. S., M. A.

“I read with great interest the pamphlet you were good enough to send me, and I should like to make acquaintance of the writer.”

W. WEDDERBURN, I. C. S.

“The views it contained, I thought, were sensible and well expressed. You will be glad to hear that Professor Wordsworth expressed the same opinion in conversation with me last night, when I spoke to him of it.”

W. E. HART, B. A.

“Your excellent little pamphlet will furnish a satisfactory proof that you have a good stock of educational ideas and experiences, which will be of great use to you in any responsible position.”

W. WORDSWORTH, B. A.

“I think I sent your pamphlet to Messrs. West, Wordsworth, Hunter, Wedderburn, Lethbridge, Lee-Warner, and others. Most of them were well pleased with it.”

B. M. MALHARI.

“I was glad to see that you took such deep interest in the work of the Education Commission. I duly received your pamphlet this time last year, and it was a work well worthy of your pen.”

M. G. RANADE, M. A., LL. B.

“I agree with you in most of your views. Education is a large subject, and there is room for difference of opinion on many points. But on the whole, I think, yours is a sound view of the matter.”

V. A. MODAK, B. A.

“Your pamphlet was exceedingly well written, and Dr. Hunter in a public speech praised it. Any commendation of it by me would, therefore, be superfluous.”

A. S. DESAI, M. A., LL. B.

“Praise from me cannot be of much value to you, as more competent persons have found it fully deserving of praise; but it might be some satisfaction for you to know that I viewed the attempt to expound sound doctrines on the art of teaching and to expose the weak points of the existing system of education as very beneficial to the interests of children directly, and of the country indirectly. The proper education of children has a great deal to do with the moral and political well-being of a nation, and I wish you heartily every success in your endeavours to put the imparting of instruction on a more intelligent and satisfactory footing.”

K. R. DADACHANJI, M. A., LL. B.

EXTRACTS

FROM

THE WANTS AND CLAIMS OF EDUCATION IN INDIA.

* * * * *

The word " Education " has included different ideas in various societies at different stages. Its history is exceedingly interesting and instructive. Successive systems of education have reflected successive social states. Who has not read about the systems of Spartan education, Athenian education, Roman education in its different phases, and Modern education, still in its transitional stage ? A great modern thinker complains, with justice, that if we examine our system of education, which is but a mirror of the various social systems, we will find that the ornamental has usurped the place of the useful. In dress as well as in education—for the one is but a covering of the body, the other of the mind—we sacrifice utility to refinement. In our schools and colleges, while the study of dead languages is insisted upon, the study of Sciences on which depend the life, health, and strength of man, has been carefully excluded.

Education has always tried to supply the needs of a society in a particular stage. We know what the need of India is. It is, no doubt a poor country, but it is rich in the production of raw material. This raw material, for want of suitable appliances and intelligence, is exported to foreign countries to be manufactured and refined there. Now, to remedy this state of things, the spread of Scientific education would be a great boon to the

The mode of Education
has varied according to the
needs of Societies.

The need of India:
Scientific Education.

people of India. Again, India is an agricultural country. Its Flora is almost unrivalled for its richness and variety. But the state of its agriculture and the knowledge of its Flora are not in a very advanced condition. Here, then, Science should come to the help of the ignorant and poor ryot. Besides, India is subject to periodical famines. This calamity might, to a certain extent, be averted by the spread of a knowledge of the rational principles and improved means of agriculture among the Indian agriculturists. It will prove a boon in another way. We know how superstitious the people of India are. The sovereign remedy to weaken the superstition of ages is Science. A great writer has left the following opinion on this subject.

“We may be assured that neither literature, nor Universities, nor
 Legislature, nor reforms of any kind will
 ever be able to rescue the people from the
 helpless and benighted condition.”
 Buckle's opinions.

“The sole course is to weaken the superstition of the people; and this can only be done by that march of Physical Science which familiarizes man with conceptions of order and regularity, and gradually encroches on the old notions of perturbation, of prodigy, and miracle, &c.”

The true aim of all education ought to be to develop the
 child and youth “healthfully and vigor-
 ously, bodily, mentally, and morally.”
 Herbert Spencer's ideal of a perfect system of education.

According to Mr. Herbert Spencer, a perfect system of education has reference to:—1, those activities which directly minister to self-preservation; 2, those activities which, by securing the necessaries of life, indirectly minister to self-preservation; 3, those activities which have for their end the rearing and discipline of offspring; 4, those activities which are involved in the maintenance of proper social and political relation; and 5, those activities which fill up the leisure part of life, devoted to the gratification of the tastes and feelings.

But when one comes to examine the prevailing system of education, what does he find? There is no provision for knowledge requisite for the preservation of that health without which life would be a mere burden; no provision for that useful knowledge which can give one the means of earning an independent and honourable livelihood; and, finally, no provision for that knowledge which alone can enable the parents to rear up a healthy and intelligent progeny.

The defects in the system of education, which we give to our boys, are exactly copied in the system of our female education. While the ornamental is carefully attended to in the female education, the necessary and useful is excluded. Poor mother! When she does not know how to preserve her own health, how could she be expected to rear up healthy children? Ignorant herself, how could she satisfy the inquisitive curiosity of her children, or save them from pernicious impressions? These are serious questions—questions on the right solution of which depends the welfare of a nation.

* * * * *

Agents employed are untrained; why?

Now let us see how the work of education fares at the hands of its agents—the teachers.

If we ask what preparation is made to ensure intelligent teaching, the invariable answer is—except a certain amount of so-called school or collegiate training—none; no special preparation is insisted upon, because none is thought necessary. It is entirely forgotten that “education is an art like locomotion, mining, or bleaching, which may be pursued empirically or rationally, as a blind habit, or under intelligent guidance; and the relation of science to it is precisely the same as to all other

people of India. Again, India is an agricultural country. Its Flora is almost unrivalled for its richness and variety. But the state of its agriculture and the knowledge of its Flora are not in a very advanced condition. Here, then, Science should come to the help of the ignorant and poor ryot. Besides, India is subject to periodical famines. This calamity might, to a certain extent, be averted by the spread of a knowledge of the rational principles and improved means of agriculture among the Indian agriculturists. It will prove a boon in another way. We know how superstitious the people of India are. The sovereign remedy to weaken the superstition of ages is Science. A great writer has left the following opinion on this subject.

“We may be assured that neither literature, nor Universities, nor
 Legislature, nor reforms of any kind will
 ever be able to rescue the people from the
 helpless and benighted condition.”

“The sole course is to weaken the superstition of the people; and this can only be done by that march of Physical Science which familiarizes man with conceptions of order and regularity, and gradually encroaches on the old notions of perturbation, of prodigy, and miracle, &c.”

The true aim of all education ought to be to develop the
 child and youth “healthfully and vigor-
 ously, bodily, mentally, and morally.”

According to Mr. Herbert Spencer, a perfect system of education has reference to:—1, those activities which directly minister to self-preservation; 2, those activities which, by securing the necessaries of life, indirectly minister to self-preservation; 3, those activities which have for their end the rearing and discipline of offspring; 4, those activities which are involved in the maintenance of proper social and political relation; and 5, those activities which fill up the leisure part of life, devoted to the gratification of the tastes and feelings.

But when one comes to examine the prevailing system of education, what does he find? There is no provision for knowledge requisite for the preservation of that health without which life would be a mere burden; no provision for that useful knowledge which can give one the means of earning an independent and honourable livelihood; and, finally, no provision for that knowledge which alone can enable the parents to rear up a healthy and intelligent progeny.

The defects in the system of education, which we give to our boys, are exactly copied in the system of our female education. While the ornamental is carefully attended to in the female education, the necessary and useful is excluded. Poor mother! When she does not know how to preserve her own health, how could she be expected to rear up healthy children? Ignorant herself, how could she satisfy the inquisitive curiosity of her children, or save them from pernicious impressions? These are serious questions—questions on the right solution of which depends the welfare of a nation.

* * * * *

Agents employed are untrained; why? Now let us see how the work of education fares at the hands of its agents—the teachers.

If we ask what preparation is made to ensure intelligent teaching, the invariable answer is—except a certain amount of so-called school or collegiate training—none; no special preparation is insisted upon, because none is thought necessary. It is entirely forgotten that “education is an art like locomotion, mining, or bleaching, which may be pursued empirically or rationally, as a blind habit, or under intelligent guidance; and the relation of science to it is precisely the same as to all other

arts—to ascertain their conditions and give laws to their process. What it has done for navigation, telegraphy, and war, it will also do for culture.” The few books which have been published of late in England on the subject are scarcely known here. The same empiricism which once reigned supreme in the domains of chemistry, astronomy, and medicine still prevails in many instances, in the domain of education. If we ask why nothing has been done to improve the methods of teaching, the answer is—“because, in the prevailing system of culture, the art of observation, which is the beginning of all true science and the basis of all intellectual discrimination, and the kind of knowledge which is necessary to interpret these observations are universally neglected. Our teachers mostly belong to the old dispensation. Their preparation is chiefly literary; if they obtain a little scientific knowledge, it is for the purpose of communicating it, and not as a means of tutorial guidance. Their art is a mechanical routine, and hence, very naturally, while admitting the importance of advancing views, they really cannot see what is to be done about it.” Every graduate or undergraduate is thought equally fit to undertake the most responsible work of “teaching the young idea how to shoot,” although he has no conception whatsoever of the laws of the mind,—laws according to which the human faculties unfold themselves in a certain order. We fear that an unskilled workman, with the most perfect implements, will botch his work. But we are not afraid that an unskilled teacher will botch the most curious and delicate of all works of nature—the human mind. We have no college of preceptors, because no special training is thought necessary for teachers. This state of things requires to be reformed.

A College of Preceptors is
badly wanted.

Now the evils consequent on the present state of things are:—

Evils consequent on the above causes. 1, want of an accumulated fund of experience; 2, want of interest in the work of teaching; 3, want of improvement in the methods of teaching; 4, want of sympathy between teachers and pupils; 5, want of sympathy between superiors and subordinates; and lastly, want of a feeling of brotherhood, which ought to exist among all persons engaged in the same work.

Some of the above wants might have been supplied long ago by the formation of an "Association of Teachers." An Association of this kind is badly wanted. The benefits arising from the existence of such an Association are too self-evident to be pointed out here.

* * * * *

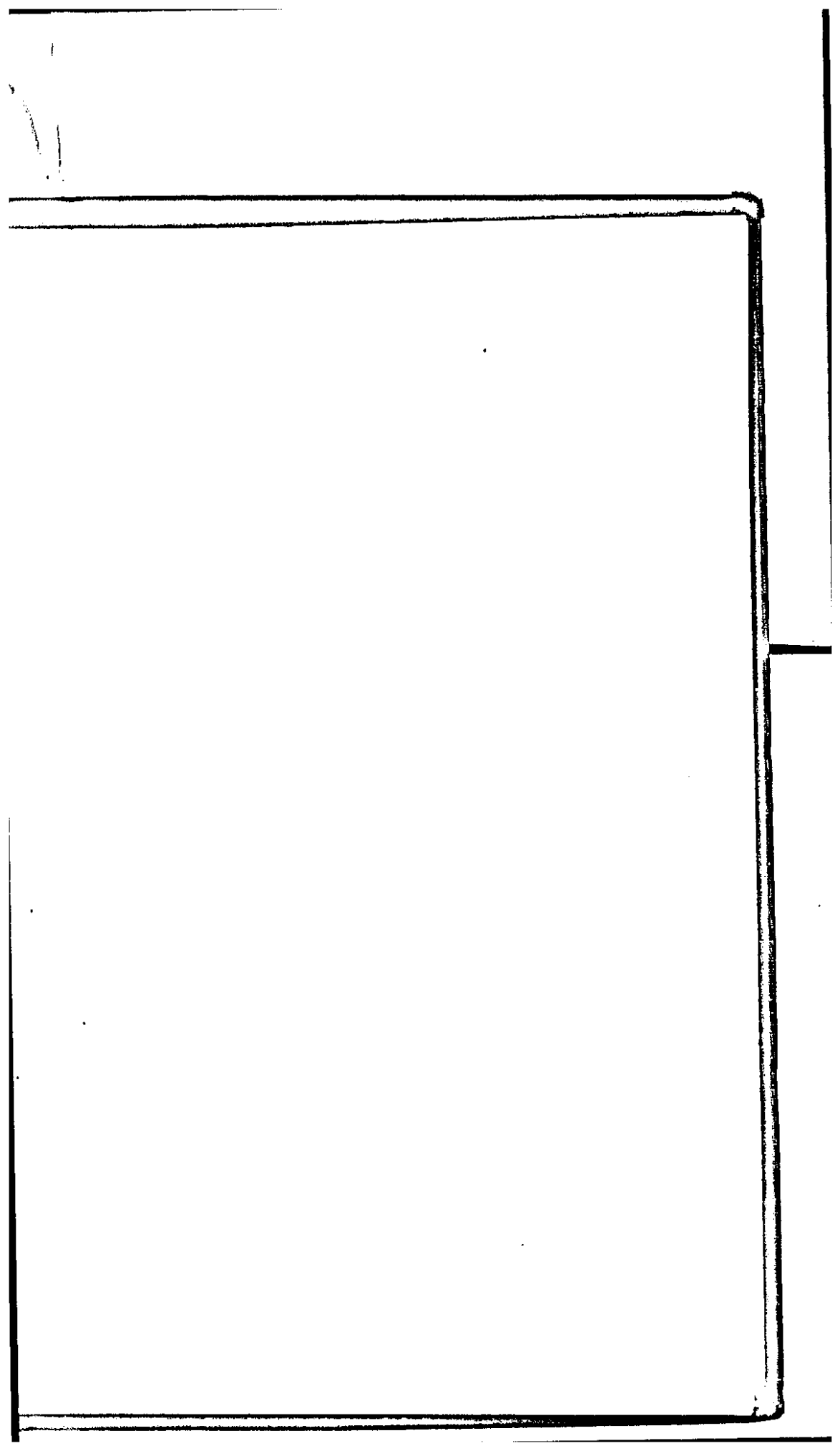
Professor Tyndall on the importance of the teacher's profession. Years ago Professor Tyndall said on the importance of the profession of teaching.

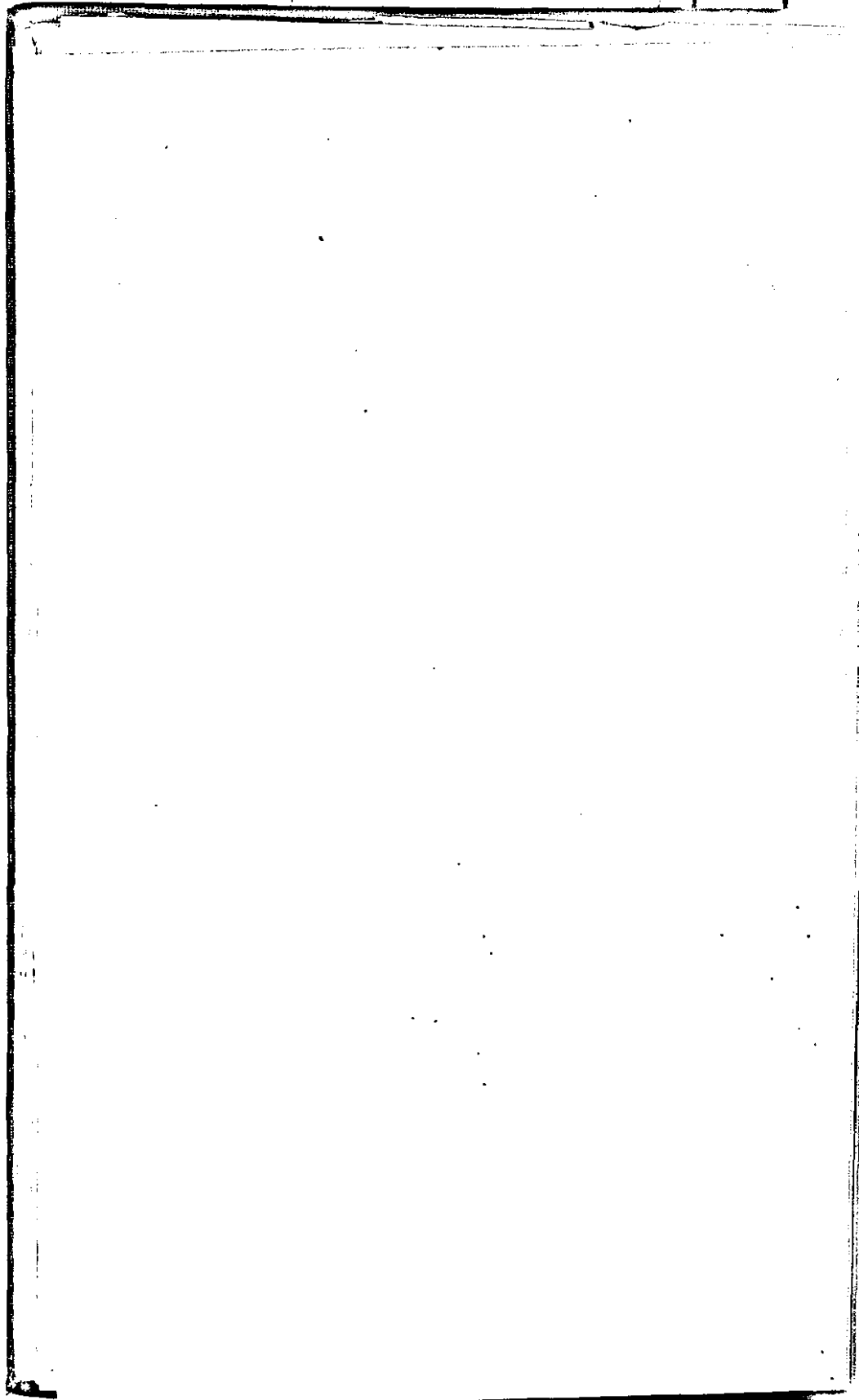
"If there be one profession in England of paramount importance, I believe it to be that of the School Master; and if there be a position where selfishness and incompetency do most serious mischief, by lowering the moral tone and exciting contempt and cunning where reverence and noble truthfulness ought to be the feelings evoked, it is that of the Governor of a school. When a man of enlarged heart and mind comes among boys,—when he allows his being to stream through them, and observes the operation of his own character evidenced in the elevation of theirs,—it would be idle to talk of the position of such a man being honourable. It is a blessed position. The man is a blessing to himself and all round him."

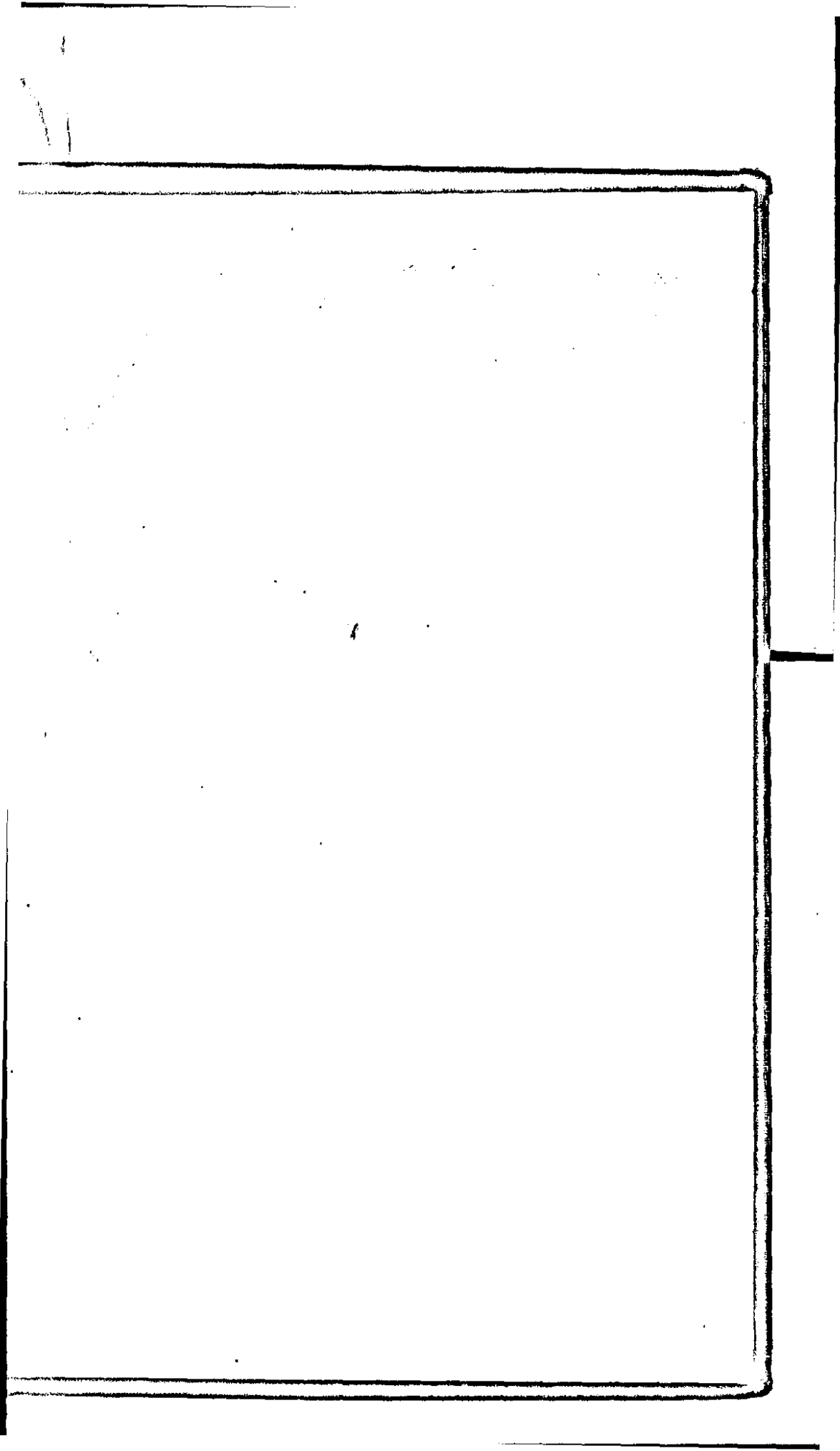
* * * * *

The spread of intelligence by means of education among the subjects is certain to repay to the Government a hundredfold the sum that might be required for the purpose. Increase of intelligence in a country means increase of its productive resources, which means increase of revenue to the Government. The spread of education, also, evinces its beneficial influence in the decrease of crime, and the ease and small expenditure with which it enables the Government to keep order among its subjects. This is a fact which can be verified from the records of the Government. Moreover, to what does the Indian Government owe the present efficient management of its several departments but to its schools and colleges—few as they are? Twenty years ago, not even the most sanguine patriot could have dreamt of the able conduct of the present native Covenanted and Uncovenanted servants of all grades of the Indian Government. These are no small advantages accruing to the Government through the education of its subjects.

To sum up the substance of the preceding pages in a few words. First, that the present system of education is one-sided, and serves to distort the human nature, inasmuch as it neglects moral and physical education. Secondly, that this one-sided education is lamentably defective, and serves to waste mental power, inasmuch as the method and the means employed do not serve to unfold all the mental faculties. Thirdly, that the present system, while it imparts unnecessary and useless information, withholds necessary and useful knowledge. And lastly, that the educational department is not an unnecessary and unproductive burden, and that it is the interest of the Government to educate its subjects as efficiently as possible.







tion, or the position of the candidate in the list. If a candidate passes in that subject, the fact is simply notified by the University'

SECOND LANGUAGE.

To the second language list, I would suggest the addition of German. When we have admitted French among the classical languages, there is no reason why the claims of German should not be considered. It is not only a highly cultivated language, but it has done much for the advancement of the study of Sanskrit and Zend.

I would press upon the attention of the University authorities the claims of Marathi and Gujarati to be treated as classical languages. Even for the highest examination in Arts, *viz.*, the M. A. examination, the Madras University recognizes the following languages:—

I English, II Sanskrit, III Greek, IV Latin, V Hebrew, VI Arabic, VII Persian, VIII Urdu, and IX the group of Dravidian languages. Thus Madras by her recognition of the vernacular languages, even for the highest examination, has made a future of vernacular literature possible; while we, by our condemnation of them, have sealed the fate of vernacular literature.

The advocates of Sanskrit and other classical languages will say that if the vernacular languages are admitted to the rank of classical languages, students would flock to them. To obviate such a contingency, we might assign less marks for the vernacular languages, and make the course sufficiently high so as to deter indolent students from taking up these languages simply because they might be found to entail less study. If further precaution were necessary, it might be arranged that students taking up these languages should find no place in the First Division. But perhaps we exaggerate the fears of such a contingency, because we see that in Madras, Sanskrit and