

(2000 francs), for the relief of unfortunate scientific men or their immediate relations; the Gustave Roux prize (1000 francs), for a young French scientific worker; the Trémont prize (1100 francs); the Wilde prize (one prize of 4000 francs and two of 2000 francs), awarded without distinction of nationality for work in astronomy, physics, chemistry, mineralogy, geology, or experimental mechanics; the Lonchampt prize (4000 francs), for the best memoir on work on the diseases of man, animals, or plants from the special point of view of the introduction of mineral substances in excess as the cause of these diseases; the Saintour prize (3000 francs), for work in the physical sciences; the Henri de Parville prize (2500 francs) for original scientific work or publication; the Victor Raulin prize (1500 francs), for assisting the publication of work relating to geology and palæontology; the Houllé-vigue prize (5000 francs); the Caméré prize (4000 francs), to a French engineer for improvements in the art of construction; the Jérôme Ponti prize (3500 francs); the Bordin prize (3000 francs), the subject proposed for 1916, researches relating to the determinism of sex in animals; the Parkin prize (3400 francs), for researches on the curative effects of carbon in various forms, and more especially in gaseous form of carbon dioxide, in cholera, the different forms of fever or other diseases, or, as an alternative subject, for researches on the effects of volcanic action in the production of epidemic diseases in the animal and vegetable kingdoms and in causing abnormal atmospheric disturbances; the Jean Reynaud prize (10,000 francs); the Baron de Jouest prize (2000 francs), for a discovery useful to the public welfare; the prize founded by Mme. la Marquise de Laplace (a complete collection of the works of Laplace) to the first student leaving the Ecole Polytechnique; the Felix Rivot prize (2500 francs), divided between the four students leaving each year the Ecole Polytechnique with the first and second places in the section of Mines and of Ponts et Chaussées.

THE ENGLISH CERAMIC SOCIETY.¹

THE English Ceramic Society, to judge from the latest issue of its Transactions, still continues to do excellent work. Although the present number contains no article of first-rate importance, it is obvious from the general character of the communications, and the nature of the discussions by which they are followed, that the members are fully alive to the value of the society in promoting exchange of experience and opinion on the many obscure problems with which the art and craft of the potter is beset. No indication of the health and vigour of the society could be more significant than the manner in which individual knowledge and experience are made to contribute to the general benefit of the industry. Such a spirit has been far from the rule in times past, for in no other industry have trade secrets and little details of practice been more jealously guarded than in potting. The enlightened example of the society will do much to break down this absurd exclusiveness and short-sighted selfishness. If each thus contributes to the common stock, the general welfare is increased, and the position of the industry as a whole is enhanced, to the collective benefit of the manufacturers and the country generally. In this respect we have something to learn from our enemies. The spirit of co-operation has largely contributed to raise manufacturing in Germany to the formidable position it has gained. If we are to maintain, and especially

¹ "Transactions of the English Ceramic Society," Vol. xiii, Session 1913-14. (Stoke-on-Trent: Hughes and Harber, Ltd., 1914). Price to non-members, 30s.

if we are to increase our pre-eminence as the largest traders in the world, this spirit of co-operation and mutual helpfulness must continue to prevail, and to grow.

The communications in the present issue of the Transactions call for no special comment. The "Symposium on Fineness of Grinding" brought out a considerable difference of opinion as to the relative merits of cylinder- and pan-grinding, and as to the influence of the fineness of the particle on plasticity, contraction, texture, porosity, and "crazing"—all of them points which are capable of a satisfactory solution if attacked experimentally in a scientific manner. These are typical of the kind of problems with which the County Pottery Laboratory at Stoke-on-Trent may be expected to concern itself. The discussion on grinding bore unmistakable testimony to the influence of the human element, especially in pan-grinding. That influence was no less marked in the course of the discussion on "firing," and of the relative importance of "tops" and "bottoms," where opinion was equally divided. The average "fireman" may be (and evidently is in the opinion of some) a rather perverse and obstinately conservative kind of individual, wholly wedded to traditional practice, but if this volume falls into his hands, he may at least be able to retort that he knows more about firing than his betters seemed to know about French on the occasion of their visit to the pot-banks of our Ally! *Verb sap.* T.

EDUCATION IN RELATION TO INDUSTRY AND COMMERCE.¹

Our First Purpose.

WE are now in the midst of the greatest struggle that the British Empire has ever been engaged in. The outcome of the struggle involves not only our existence as a nation, but the existence of those principles and ideals of life and government which we hold dear. Our energies, individual and national, must for the moment all be turned to one purpose, to bring the war to a successful conclusion. The men who are fighting at the front are doing magnificent work, but it is for each of us in his own sphere to do his share in order that at the earliest possible moment the world may be free from the terrors of the war.

In time, peace will come. With that peace there will be renewed the international struggle for trade, and British enterprise must be ready to take full advantage of the great opportunities that will then occur. Individual effort will not be of any great use. Concerted action is essential if we are to retain the foremost place in the world of trade; and just as we are vigorous in the pursuit of the present war, so as a nation must we be vigorous in the pursuit of industrial and commercial supremacy.

The Industrial Army.

How is this supremacy to be attained? It is primarily a question of education. We must have in the first instance an industrial army, capable, alert, and well trained. The production of this army must begin in the elementary schools. The leaving age of school children, for urban districts at least, must be raised to fourteen years, and age must be made the only leaving qualification. Moreover, the children should leave at the end of the educational year in which they reach the leaving age, or, at any rate, they should leave only at the end of the school term in which the leaving age is reached. For this reform we must look to Parliament, as it is impossible for a

¹ Address delivered before the National Association of Education Officers on January 1 by the president, Mr. James Graham.

local authority to make the change in view of the many local interests involved.

With the leaving age at fourteen years, local authorities and teachers, after making a careful selection of the boys and girls who should go forward to a secondary school at the age of twelve, could turn their attention to the children left in the elementary schools, who as a body may be expected to receive very little general education beyond that obtained in the elementary schools. For these children it would be possible to organise special two-year courses which should prove extremely valuable in preparing them for the work they will undertake on leaving school.

Preparation in the Elementary Schools.

A large proportion of the boys from our elementary schools enter some trade or some branch of industry, and for these the courses of study between the age of twelve and fourteen years of age, while remaining on broad general lines, should be somewhat industrial in character. There is at the present time a strong demand for industrial or vocational education in which practical methods and manual training are involved, but it must not be forgotten that the purpose of elementary education is not to prepare for a particular trade, but rather to develop all the child's faculties so that he may be prepared to enter any walk of life. The all-round general education of the child must be the first consideration, and in the suggested courses of study no attempt should be made to teach any specific trade. The courses would be entirely preparatory and general-trades work, and would involve teaching the theory and principles which underlie British trades generally. "Learning by doing" would take the place of "book learning." An attempt would be made to put the whole boy to school, to train the entire faculties of the boy, intellectually, morally, and physically, and so fit him for life. The work which is now generally done in artisan evening schools would be covered by every boy in an urban elementary school, where the work would be done under vastly better conditions, as the teaching would be given to boys who are fresh and vigorous instead of to tired boys who have already done a day's work.

The workshops of the country require boys with self-effort, self-reliance, initiative, and thought, and it should be the object of these courses to provide just that training which would develop these habits. The general adoption of this development in elementary education would create in the near future a supply of intelligent boys, who would rapidly become in the workshops intelligent and skilled workers, ready and able to adapt themselves to the changing working conditions of the trade and of the times; and we should hear no more of the employers' complaint that the present product of the elementary schools is not the type of youth they require in their shops.

In the proposed courses, roughly one-third of the school time of the boy during the age of twelve to fourteen should be devoted to the study of English subjects, one-third to mathematics and technical drawing, and the other third to actual experiments and practical work in the laboratory or workshop. The scheme of instruction would be arranged with the intention of securing an all-round development of the boy's faculties in a thoroughly practical manner, in order that by the time the boy is ready to commence work he may possess not only a general grip of the principles which underlie trades in general, but such intelligence, reasoning power, and adaptability as are calculated to secure for him the approval and good will of his employer.

This preparatory practical training before the boys enter the workshop or factory is the first step in the

production of a capable industrial army. I reiterate that at this stage the practical training must be general; there must be no attempt to teach any specific trade, but every effort must be made by curriculum and by method to develop all the faculties of the boy.

Education of Boys in the Workshops and Factories.

We now come to the second age period and deal with the problem of the boys from fourteen to eighteen years of age. The boys have now left the school. They are in the workshops, and specific trade instruction must begin. Opportunities must be provided for the boy to lay the foundation of a livelihood which in the main will persist through life. At the same time it must not be forgotten that the boy is something beyond a potential wage-earner or producer. He is a future citizen, and in the scheme of education for such youths time and opportunity must be provided not only to enable him to understand the occupation which he has entered and from which he is to obtain his livelihood, but also to enable him to understand his duties as a citizen. There should be provided opportunities for mental, physical, and moral training which shall fit him for manhood and for his place in the nation.

The Teaching of Trades.

The modern workshops are highly organised and specialised with a view to enable employers to reduce the cost of production and to compete successfully for orders; consequently it is practically impossible to-day for an English boy to learn the whole of a trade in a workshop. It is in this connection that the technical schools of the country working in close co-operation with the workshops should fulfil their real function. When the boy enters the workshop his education is far from complete, even if he has had the general practical training outlined above. Continued education applicable to his chosen trade must be given, and the problem that confronts us is how best to ensure that the boy shall have this technical education in spite of the fact that the industrial conditions are vastly different from what they were.

In the old days the employer was the sole educator of his apprentice or young worker. Under present conditions it is impossible for the employer to give the young worker all the instruction he requires. The schoolmaster, therefore, has been called in to undertake part of the work. Under this divided responsibility, the work of the teacher is to give the young worker a thorough grasp of theoretical principles and to provide him with such knowledge and training as will enable him to adapt himself to changed conditions, to attack new problems, and to show initiative and skill in his work. The duty of the employer, on the other hand, is to give that advice and assistance to the teacher as will ensure that the work of the school shall not be merely academic but essentially practical, and to supplement the instruction by doing all that is possible to give the young worker ample opportunities for getting an all-round experience of his trade.

At the present time the young worker is expected to get the necessary technical education by attending the school for three or more evenings a week after he has done a full day's work in the workshop or in the factory. It is quite unnecessary to point out the drawbacks and disadvantages of this system. Excellent work has been done in the evening schools by youths of grit and character, who have attended them, and a number of employers have done a good deal by means of suitable inducements to encourage their young workers to take full advantage of the opportunities for gaining increased knowledge and experience—but voluntary attendance at evening

schools and voluntary schemes of co-operation between employers and educational authorities do not really touch the huge problem. The only effective way to train the rising generation of skilled workmen after leaving the elementary schools is to have half-time in the workshop and half-time at the technical school between the ages of fourteen and eighteen. In the words of our friend, Mr. J. H. Reynolds, the solution of the problem is "Half-time at the right time." Good health and physique are as necessary to the skilled workman as is the technical knowledge applicable to his trade, and the youth should have the opportunity of obtaining this technical knowledge without detriment to his health. In other words, he should be allowed to attend suitable courses of instruction for periods of suitable length within the normal working day.

Half-time in the workshop and half-time at the technical school is certainly ideal, but possibly at present it is not practicable. At least some modification of this arrangement must be adopted to enable young workers to attend day courses on three or four half-days a week, and thus get the necessary continued education during the daytime. Only a small proportion of the young workers of the country attend evening schools in spite of all the inducements offered and all the encouragement given, and no one would assert that they derive the greatest benefit from their attendance. The result would be infinitely better if the youth spent sixteen to twenty hours a week during the daytime at the technical school and the remainder of his time at the works.

If England is to maintain her place in the world as an industrial and commercial nation, she will have to adopt this method of teaching trades to her boys. Other nations are doing a great deal in this direction. We must do more than they because we have more at stake, and we must act promptly and boldly. Legislation is necessary; it must be made the duty of the employer to allow to the employee the time required for continuing his education according to the requirements of the trade or business which the boy enters. The need for a further limitation of juvenile labour is urgent, and it is equally necessary to place employers of labour under statutory obligation to enable young persons under eighteen years of age who are in their employment to attend courses of technical and general instruction at certain hours of the daytime when they are not too tired bodily and mentally to profit from the instruction. An Act of Parliament limiting the hours of employment for all young persons under eighteen and placing that limit so low that there shall be ample time during the normal working day for attendance of the young people at suitable courses of instruction is required.

The Leaders of Industry.

An army requires capable leaders, and there must be in connection with the training of an industrial army opportunities for the selected few to become successful leaders of industry. For these no education can be considered too good. A thorough training in the secondary schools and the universities, combined with adequate experience in a workshop or factory, is necessary. Science now plays so important a part in industry that more vigorous efforts than hitherto must be made to secure the highest and most suitable education and training for capable youths, and the future leaders of industry in England must be induced to equip themselves for competition on equal terms with the more highly trained young men of other nationalities.

The value of a thorough general education in the secondary school and university cannot be overstated,

and full technical knowledge of the particular industry is equally necessary. The training of the young men must be practical as well as theoretical; actual experience in the workshop or factory is as important as the scientific training at the technical college or university, and service in a recognised office, workshop, or factory must be compulsory for a period either before or after the college course, or during the continuance of the college course. The period of training for the men who are to fill the higher posts in industry should be at least for a period of six or eight years, in order that the student may have time to develop his powers of thought and to obtain a complete knowledge of the theory and principles underlying the industry, together with a first-hand knowledge of the processes of the industry obtained by actual contact with it in the workshop or factory.

Some of the highest posts in industry will be filled by men who, in the first instance, enter the works as youths, and who on account of their unusual capacity force their way through the various grades to fill positions of responsibility. It is of the greatest importance that opportunity should be provided for youths of proved ability to secure the education and training required of those who fill the highest positions in industry if for financial reasons their parents are unable to provide that training. In this connection a duty falls upon the local education authority to make special provision for the benefit of such youths. Scholarships must be provided to enable young workers of proved ability to attend day courses at the technical college or university for three or four years in order that they may obtain a professional training that will prepare them to fill posts of greater responsibility in the future.

In the past, England has had too few specially trained leaders of industry. To organise industry, men, shrewd, enterprising, and with full knowledge regarding the application of scientific methods in the development of industry are required. For these men there must be a most comprehensive and thorough education and training on the solid foundation of a good general education. They must have a sound knowledge of the mutual relation of science and industry and an intimate knowledge of their particular industry in order that all problems may be attacked systematically and on a scientific basis. Men of practical capacity and trained thinkers, endowed with the power of applying their knowledge to the practical necessities of industrial processes are essential in the industrial army, and the absence of a comprehensive scheme for the training of such men must prejudice the future of our country.

Commercial Army Necessary.

It is not sufficient to have a well-equipped industrial army; there must be markets for the products of industry. The goods produced must be sold, and we must have, therefore, a commercial army as well trained and equipped for the work of distribution as the industrial army is for the work of production.

It has often been stated that England is deficient in what is usually called technical education, but we must frankly acknowledge that she is infinitely worse off in regard to commercial education in spite of the development of this type of education during recent years.

The United Kingdom still ranks first among the commercial countries of the world, with its enormous annual imports and exports, its immense home trade, and its great shipping trade. We not only carry the whole of our own commodities, but we do an enormous amount of carrying for other countries. In view of these facts it is strange that commercial education

should have been so strangely neglected in England. Travellers, agents, and consuls representing the interests of British trade abroad are generally foreigners who have been thoroughly trained in the practice and theory of business while at home. The majority of our foreign correspondents and managers of firms with branches abroad are likewise foreigners. For years we have been giving the foreigners a practical experience and knowledge of our manufactures and methods of business which qualify them to meet us as strong competitors. These foreigners come in large numbers; they very often enter our business houses with a view of acquiring information as to the inner working of the firm's business connections, and on going back to their own country they join a rival establishment or set up an establishment of their own.

English firms are driven to the employment of foreigners because young men in England do not pay sufficient attention to commercial education and to the study of foreign languages.

The Training of a Commercial Army.

This state of affairs cannot be allowed to continue. We must produce an army of trained traders, and in the production of this army education must play a prominent part.

The first essential for one who is to enter a commercial career is a sound general education in which the study of English and at least one foreign modern language should be of first importance. Any intending business man should have a secondary-school education and specialised commercial study should not be commenced until the age of fifteen at least. In many good secondary schools commercial sides are organised for the higher forms, and the studies of the pupils are given a certain amount of commercial bias.

The commercial education so given is strikingly inadequate in comparison with the provision in other countries. Unfortunately we in England still retain the idea that a small amount of education is sufficient for a man destined to be a trader, whereas other countries are more enlightened, and they endeavour to provide for the future trader the highest education applicable to his walk in life.

Schools for Commercial Education.

England in this matter has delayed far too long. It is now essential that there should be established in this country schools of commerce which in our English system might well form one side of our secondary schools, with a curriculum specially designed for the higher education of young people who are destined for a business career. The teaching staff must be really competent, and the school must be equipped for teaching the theory of business, and as much of the practice of business as possible, the general aim of the school being to train well-equipped employees of all grades from the competent clerk to the competent employer.

A Typical School of Commerce.

Belgium was the first nation to give practical effect to the idea of establishing a special college for the commercial training of her young men. The aim of the exhibition held at the Crystal Palace in 1851 was to compare the progress made by the different peoples in the development of the industrial arts. It was recognised that England held the first place. But while we rested complacently on our oars, other nations profited by the lesson and began to take steps to promote their home and foreign trade. Belgium recognised that competent men to represent her in the foreign markets were required, and as a result the Higher Commercial Institute at Antwerp came into existence. It was to be to the men destined for a

commercial career what the university was to the doctor or the lawyer. Similar institutions have since been founded in France, Switzerland, Germany, Austria, Italy, and even in distant Japan. Before admission candidates must show competent knowledge as tested by an entrance examination. The curriculum embraces the study of all subjects, a knowledge of which is indispensable to the merchant, the banker, or the trader, including at least two foreign languages, book-keeping, commercial documents, geography, history, arithmetic, and algebra, commercial law, and the elements of political economy, as well as physics and chemistry. The course of study is practical as well as theoretical. Transactions of a large commercial house are simulated, the operations of a counting-house are minutely practised and all questions relating to the theory of exchanges are carefully described. Correspondence is conducted by the student in French, German, and English. The principles of international commercial law and customs' legislation are inculcated, and special care is taken to make the student acquainted with foreign markets by furnishing him with reports sent in periodically by Belgians resident abroad. To further the knowledge of all kinds of vegetable, mineral and animal products, there is a well-furnished museum with samples and patterns kept up to date, so that the professor is able to give to his pupils a direct knowledge of the article, in which the latter may one day be called upon to trade. The actual political and economical condition of foreign countries is studied from carefully compiled data and the relative value of raw material from different sources of supply is inquired into and noted. The student is encouraged to take a close interest in the political events of to-day so far as they affect commercial interests, and the latest consular reports from all countries are placed at his disposal, so that he himself later on may be in a position to make a report upon the commercial practice of any country in which he may happen to find himself. Visits to factories, mills, mines, etc., enable the student to acquire an insight into the actual working of those industrial establishments.

Valuable travelling scholarships are given to the best students, who are thus relieved of the necessity of accepting the first situation that is offered to him. He is enabled, in fact, to study the economical condition of the country in which he resides, but he must send home periodically a detailed report of the result of his observations. These reports, after being noted by the Government, are utilised by the students in the prosecution of their studies.

The Training of Clerks.

For those engaged in business who are not able to attend full time at a day school of commerce, arrangements should be made by which they should be able to attend such schools on three or four half-days a week during the normal working hours. The young worker in a house of business is in the same difficulty as the young industrial worker: he cannot get an all-round training; and at present he must get his theoretical knowledge of commerce by attendance at a commercial evening school on three evenings a week. This system is unsatisfactory; but by a part-time attendance at a day school of commerce, he might go through a modified course of instruction which combined with his experience in a business house should make him far better fitted for the post he is filling.

Training for the Consular Service.

In the school for commerce the highest courses are arranged for the special purpose of fitting the student

for the Consular Service. At the present time England is generally represented abroad by a foreigner whose first interests naturally are not British. What we require is that every Consul representing British interests should be an Englishman specially trained for the service, with a full knowledge of British trade, and ready and able to place British interests first.

A Liberal Education Necessary.

Our travellers, managers, agents, and responsible clerks in connection with all branches of industry should be properly trained. They should complete a course of study applicable to their particular calling, including modern languages for commercial purposes, commercial arithmetic, book-keeping and accounts, commercial practice, geography and history of commerce, economics and commercial law. At the same time it cannot be too strongly urged that opportunities must be provided for education apart from the purely utilitarian form.

The period between fourteen and eighteen years of age is a vital period during which the youth should have the opportunity of fitting himself for livelihood and for life. He should have the opportunity of learning in the fullest sense his trade or business and of developing those faculties of mind, body, and spirit that would enable him to fulfil his duties to his neighbours and to the nation. The school course should, therefore, offer beyond the purely technical or commercial subjects other subjects of a liberal character. The youth is not merely a wage-earning industrial or commercial; he is a human being, and his education and training should enable him to occupy his leisure time to good advantage.

Responsibility of Education Officials.

A responsibility rests upon us as education officials. It is for us to see that the educational needs of the nation are really appreciated, and that the fullest educational opportunities are provided for all. If we rightly do our part there should arise in England an industrial army and a commercial army capable of maintaining for our country that industrial and commercial supremacy which is vital to a nation so situated as we are.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The *Cambridge Review* has just published the names of the past and present members of the university who are serving in some capacity in the King's Forces. The number amounts to 7,237, and they are distributed amongst the colleges as follows:—Trinity College, 1,840; Pembroke, 760; Gonville and Caius, 616; Clare, 535; King's, 436; Jesus, 385; Emmanuel, 371; Christ's, 359; St. John's, 337; Trinity Hall, 328; Magdalene, 214; Queen's, 179; Sidney Sussex, 154; Peterhouse, 140; Downing, 126; Selwyn, 125; St. Catherine's, 117; Corpus Christi, 109; Fitzwilliam Hall, 90; Honorary Graduates, 16. With one or two exceptions the numbers run parallel with the sizes of the colleges in normal times, and the list is, with these exceptions, in much the same order as the colleges would be classified if they were arranged on a basis of the number of students.

The General Board of Studies has appointed Mr. K. J. J. Mackenzie, of Christ's College, Reader in Agriculture.

LONDON.—Two appointments to the university professorships were made by the Senate on January 27. Dr. Edward Barclay-Smith, of Cambridge, succeeds

Prof. Waterston in the Chair of Anatomy at King's College, and Dr. E. P. Cathcart, of Glasgow, succeeds Prof. Leonard Hill in the Chair of Physiology at London Hospital Medical College.

The D.Sc. Degree has been granted to the following:—Mr. E. L. Kennaway, Guy's Hospital, for physiological chemistry; Miss Ethel N. Thomas, University College, for botany; Mr. J. Kenner, East London College, for chemistry; and Mr. J. Kenyon, external student, for chemistry.

The Hon. R. C. Parsons succeeds Prof. Cormack as one of the representatives of the university on the governing body of the Imperial College of Science and Technology.

MANCHESTER.—At a meeting of the Court of the University held on January 27 Sir Henry Miers, F.R.S., was appointed Vice-Chancellor, in succession to Prof. Weiss, whose resignation takes effect in September. The nomination of Sir Henry Miers had previously received the unanimous approval of the Senate and Council. Since the resignation of Sir Alfred Hopkinson arrangements have been made to lighten the administrative duties of the Vice-Chancellorship, and it is hoped that in the appointment of a distinguished man of science to this office additional strength may be given to the advanced teaching and research work of the University. A proposal will shortly be brought forward to establish a professorship of crystallography, to which the new Vice-Chancellor will be appointed.

OXFORD.—The friends of the late Mr. Arthur Elam Haigh, sometime fellow of Hertford and fellow and tutor of Corpus Christi College, Oxford, will have heard with regret of the death of his elder son, Lieut. Charles Roderick Haigh, Adjutant of the 2nd Battalion Royal West Surrey Regiment, who was killed in action in Belgium on November 7. Lieut. C. R. Haigh has left several large bequests to educational and charitable objects, among them being the establishment of a scholarship at Corpus Christi College and another at Leeds Grammar School, both in memory of his father. There are further bequests to Winchester College, to the Oxford Preparatory School, to Oxford Temperance and Surgical Aid Societies, and to his old regiment.

The University has adopted a series of decrees allow a certain relaxation of the regulations concerning the keeping of terms and payment of dues in the case of those of its members who are serving in the war.

It is announced in the issue of *Science* for January 22 that Pomona College, Claremont, Cal., has completed the collection of an endowment fund of 200,000. towards which the General Education Board contributed 30,000.; also that Mrs. Russell Sage, who had undertaken to give 20,000. towards a 100,000. dining hall for Princeton University, has increased her offer to 50,000., provided an equal sum is collected by July 1. Sums amounting to 15,000. have been subscribed.

COMMENTING upon an article in the January issue of the *Technical Journal* of the Association of Teachers in Technical Institutions on the Massachusetts Institute of Technology in *NATURE* for January 21 (vol. xciv., p. 580), we reminded our readers that in this well-known college there is a continual weeding out of those students who do not display the requisite ability and application. We might have added that this plan is common in American institutions of higher education, and is adopted in many of our own technical colleges. In the faculty of engineering of the University of Bristol, for example, Prof. J.