

also given of the effect of low temperature on the properties of steel. Other interesting research exhibits included furnaces and methods of testing refractories; also apparatus for testing the electrical and magnetic properties of steel and its micrographic structure. A visit was paid to the firm's experimental proof butt in which are developed the large calibre projectiles for which Messrs. Hadfields are notable. Exhibits of historical interest included old metallurgical books from the valuable collection of Sir Robert Hadfield, and a number of ancient iron specimens from Egypt, India, etc. The Prince was also shown the original small transformer made in 1903 of the low hysteresis steel invented by Sir Robert Hadfield, which material, on the authority of Dr. T. D. Yensen, has since saved the world a sum equal to the cost of the Panama Canal.

### Technology and Schools.

THE Association of Teachers in Technical Institutions held its annual conference on May 21 at Leicester. The new president, Mr. W. R. Bower, of Huddersfield Technical College, delivered an address on the position of technical education, in the course of which, after quoting with approval the views on this subject expressed in the Board of Education's Draft Regulations of 1917 for Continuation, Technical, and Art Courses, he described the aim of technical teachers as "to blend education with the life and work of the people." The special characteristic of their method is to bring education by means of part-time courses, not only to the homes of the people, but also into their workshops and offices. Comparing their work with university work, he said, "Our principal function is to develop character and mentality by means of higher education amongst the many: the university should be more concerned with the individual and his fitness to become a specialist of the first order; their successes so far have been in letters, mathematics, and science rather than in technology, even if physicians and lawyers are included amongst the technologists." The principal problem of technical education is "the satisfaction of the ambition of the young adult as a scholar, a craftsman, and a citizen."

Among other matters touched on in the address were: the increase since 1859 of the number of students in technical institutions from 500 to nearly a million; and science courses in secondary schools. "Dabbling in technology" is strongly condemned, as is the planning of school science courses for direct connexion with possible university courses or advanced professional study. On the other hand, close correlation with the work of the local technical college is commended. Mr. Bower also referred to the imminent prospect of publication by the Burnham Committee of a list of technical qualifications of teachers to be deemed equal to degrees—a prospect regarded with mingled feelings by the teachers, who foresee excessive stress being laid on paper qualifications. It was stated that the source of supply of prospective technological teachers is to be found only in industrial districts. The admission of advanced technical students to share in post-graduate and research work in universities, even when they do not hold the ordinarily pre-requisite degrees, was mentioned, and it was maintained that this concession would be of considerable benefit to the universities.

A resolution was passed by the Conference pressing for a committee of inquiry with the view of correlating technical education with education generally.

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### University and Educational Intelligence.

ABERDEEN.—Prof. Matthew Hay has resigned the position of Medical Officer of Health to the City of Aberdeen, which he has held for thirty-five years.

CAMBRIDGE.—Mr. S. M. Wadham, Christ's College, has been reappointed as senior demonstrator in botany. It is proposed to confer an honorary M.A. degree on Mr. H. F. Bird.

LONDON.—A course of four free public lectures on "Tropical Hygiene" will be delivered by Dr. A. Balfour, of the Wellcome Bureau of Scientific Research, at St. Bartholomew's Hospital Medical College on June 12, 14, 19, and 21, at 5 o'clock.

Notice is given that the election of a Sharpey physiological scholar will shortly take place. The scholarship, which is of the value of 200*l.*, is for one year, but renewable in the department of physiology at University College. Applications, with particulars of academic training and list of publications, if any, must be sent by, at latest, June 23, to the Secretary of University College, Gower Street, W.C.1.

MANCHESTER.—The Court of the University has approved of the institution of a special diploma in bacteriology. This is the first diploma in this subject instituted in this country, and the courses of instruction which candidates will be required to attend before presenting themselves for examination are designed to supply a thorough training in the general principles of the subject, together with advanced courses in one or more special branches. Graduates in medicine and in science of any approved university may enter for the course, and the syllabus has been designed to meet the requirements of medical graduates who wish to qualify for bacteriological posts or to obtain a special knowledge of medical bacteriology, and of graduates in science who desire to take up some branch of bacteriological work. The diploma will be awarded to candidates who, after graduation in science or in medicine, have attended the prescribed courses over at least one academic year, satisfied the examiners in the written and practical examinations, and presented a satisfactory thesis on an approved subject. It is hoped that the action of the University in instituting this new diploma will meet the needs of a considerable number of post-graduate students for whom no adequate provision has hitherto been made, and will help to supply efficiently trained bacteriologists for the numerous posts for which they are now required.

A NUMBER of research studentships are being offered to university graduates by the Empire Cotton Growing Corporation, and will be awarded in July next. The studentships, which are each of the annual value of 250*l.* plus certain extra allowances, are intended to provide opportunities for additional training in scientific research bearing on plant genetics and physiology, entomology, physics, etc., or for the study of those branches of tropical agriculture which may be of service in agricultural administration or in inspection in cotton-growing countries. A studentship is offered by the British Cotton Industry Research Association to candidates having special knowledge of physics, engineering, or technical technology. Accepted students must be prepared to spend the period of their studentship at the West Indian Agricultural College, Trinidad, or in some other