

publication, and a considerable number of such papers have appeared in scientific and technical journals.

A high value is attached to the thesis work; and rightly. In it the student is placed in the attitude of an independent investigator. He is thrown to a large extent upon his own resources in devising methods of investigation and in finding means of overcoming the difficulties that always arise in original work. Such individual aid is given to each student as is necessary to keep him from too great loss of time from using wrong methods of procedure, without, on the other hand, giving him such specific directions as would entirely deprive his work of originality. He thus acquires a knowledge of the patience, care, and time which it is usually necessary to spend upon the experimental solution of any new and untried problem. This early training of investigators has produced excellent results. A register of the publications of the Institute and of its officers, students, and alumni, between 1862 and 1882, was compiled by

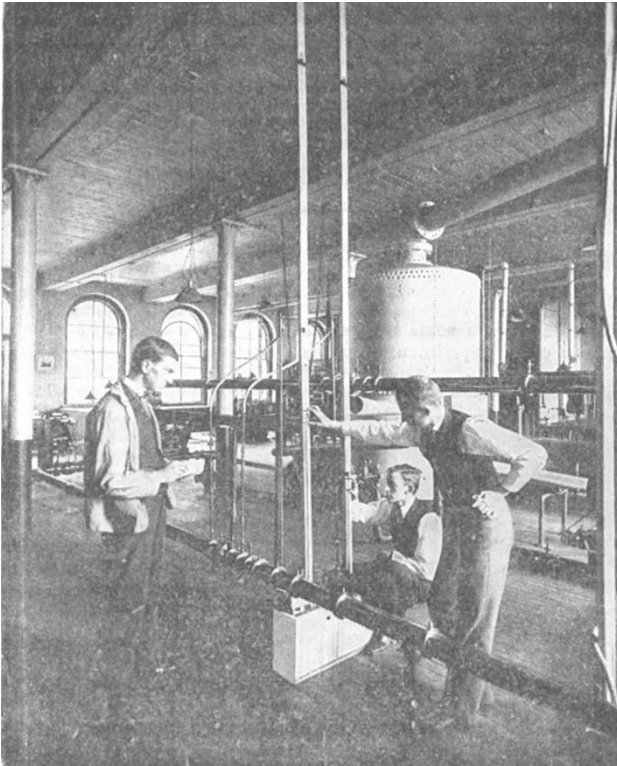


Fig. 3.—Hydraulic Laboratory.

Prof. W. R. Nichols, and has been brought up to date by the late Prof. L. M. Norton and Prof. A. H. Gill. The list includes books, pamphlets, reports, contributions to periodicals—everything, in fact, except contributions to daily newspapers—made by the teaching staff during their connection with the school, and by students during their connection with the school and in after life. As Prof. Gill remarks, no truer index of the value of an educational institution can be found than the work which its alumni have done and are doing, and when we say that the total number of titles of communications given in the list is nearly 2,900, thirteen hundred of which have been added since 1888, it will be agreed that the system of training at the Massachusetts Institute of Technology is one that gives a love of investigation to the students; and to the man of science this desire to extend natural knowledge should be the end and aim of all scientific education.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—At a meeting of the Junior Scientific Club, on Friday, October 27, Mr. M. D. Hill, of New College, was

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elected President for the current term. Mr. E. S. Goodrich exhibited some recent additions to the University Museum, including a specimen of *Palaeospondylus*, a specimen of *Indrivicandatus*, and the brain of "Sally," the chimpanzee, who was so well known at the Zoological Gardens. Mr. Wynne-Finch, of New College, read a paper on mining; and Mr. Gordon, of Keble College, read a paper on the effects of temperature on the incubation of eggs.

The Ashmolean Society held a meeting on Monday, October 30, when Mr. A. G. Vernon Harcourt read a paper on the properties of ferrous chloride, and Dr. W. B. Benham one on the effects of sedentary life on certain annelids.

The Junior Scientific Club seems to have ousted the older and more senior Ashmolean Society almost completely. At the meetings of the latter, which offers communications of at least equal, perhaps of greater, interest than the Junior Society, the attendance seldom reaches a dozen, and of these a large proportion consists of ladies who are more or less directly interested in the lecturer. The attendance at the Junior Scientific Club, on the other hand, is always large, and frequently exceeds fifty. The reason of this disparity is not easily found. Some people attribute it to the lesser formality of the proceedings of the younger society, and to the fact that smoking is permitted during the meetings.

The Sherardian Professor of Botany announces a course of six lectures on forestry, to be given by Dr. J. Nisbet, at the Botanic Garden, daily from Monday, November 6, to Saturday, November 11, inclusive.

CAMBRIDGE.—The Engineering Laboratory Syndicate ask for a grant of £1000 to enable them to complete the buildings required for the accommodation of the department. From private sources nearly £5000 have been subscribed for the purpose, but this is insufficient for the whole of the work in contemplation. Prof. Ewing reports that no less than seventy-four students have entered for courses in engineering during the present term; and it is very desirable that their work should not be hampered by delay in providing the necessary rooms for their accommodation. It had been hoped that subscriptions towards so valuable an extension of the scientific equipment of the University would flow in liberally, but the stream of benefaction seems for the present to have dried up.

The scheme for examinations in agricultural science will come before the Senate for decision on November 9. Already a note of dissent has been sounded by a well-known theological graduate.

Mr. R. A. Sampson, Fellow of St. John's, has been appointed Professor of Mathematics at the Newcastle College of Science.

SCIENTIFIC SERIALS.

L'Anthropologie, tome iv. No. 3.—The current number contains four papers of much interest. Dr. R. Collignon contributes an article on the proportions of the trunk among the French, whom he divides into three classes: (1) the Celts, in the sense in which Broca used that term, that is to say, a short, dark, brachycephalic and mesorhine people, such as those found in Auvergne, Limosin, and the centre of France generally; (2) the tall, fair, dolichocephalic Kymris, found in the north-eastern or Belgic departments of France; and (3) those who are really cross-breeds. The measures of the trunk are five in number:—(1) The total height, in the sitting position, from the inter-clavicular notch to the seat; (2) the maximum bi-acromial diameter; (3) the maximum bi-humeral diameter; (4) the maximum bi-iliac diameter; (5) the maximum bi-trochanteric diameter. The following measures of the thorax are also taken: (1) the distance from the superior border of the clavicle to the inferior border of the false ribs, measured on a perpendicular line passing over the nipple; (2) the transverse width, and (3) the antero-posterior width, at the height of the nipples; (4) the circumference just below the nipples; (5) the circumference about 3 c.m. below the nipples. Observations were made on sixty Celts, seventy Kymris, and eighty Celto-Kymris. It appears that there is a regular gradation between the three classes. Among the brachycephalic Celts, the trunk and thorax are shorter than amongst the dolichocephalic Kymris, whereas in all other respects the measurements of the Celt exceed those of the Kymri. The people of mixed blood occupy an intermediate position. When the total height or the length of the