

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—At a convocation on June 18, the honorary degree of D.C.L. was conferred upon Mr. Cornelius N. Dalton, C.B., master of the Drapers' Company.

On the same day, the new Radcliffe Library building, which has been erected by the Drapers' Company at a cost of about 21,000*l.*, was formally handed over to the University in the presence of a large number of members of the Company and of the University.

CAMBRIDGE.—Prof. Newton, F.R.S., has been appointed a manager of the Balfour fund for the ensuing five years.

The Harkness scholarship in geology has been awarded to W. G. Fearnshides, Sidney, and the Wiltshire prize in palæontology to E. R. Watson, Jesus.

Thirty-seven names appear in the first class of the natural sciences tripos, part i., and ten in the first class of part ii. Four are the names of Newnham students.

The work of Mr. Hugh Ramage, advanced student of St. John's, on spectrum analysis, has been pronounced "of distinction" as a record of original research and as a qualification for the B.A. degree.

MR. CHAMBERLAIN has addressed a letter to the Lord Mayor of Birmingham, on behalf of the council of the Birmingham University, suggesting that a rate should be made in aid of the University. The amount subscribed for the establishment of the University is 400,000*l.*, but a large proportion of this will be absorbed in the erection and equipment of buildings necessary for instruction and research. The increased cost of maintenance involved in the scheme cannot be wholly provided from the fees of students, and it is on this account that an appeal is made for assistance. In support of the appeal the council refer to the precedents already established in similar cases, notably in connection with University colleges founded in other provincial towns. Thus the corporation of Nottingham contributes 7380*l.* a year to Nottingham College, Sheffield gives nearly 6000*l.* a year to the Firth College, the corporation of Leeds 1500*l.* a year, the corporation of Manchester 1100*l.*, and the corporation of Liverpool, besides a grant of land of the value of 30,000*l.*, an annual contribution of 1800*l.* Other contributions of a substantial character have been made in many cases by the county authorities; and it is hoped that if Birmingham will set the example the counties which will derive benefit from the extension now proposed of University work in the Midlands will not be unwilling to take their share of responsibility. A rate of ½*d.* in the pound would in Birmingham provide an annual contribution of about 5000*l.*, which would justify the council of the University in proceeding immediately with the new departments, the necessity for which, in view of the increasing pressure of foreign competition, is daily becoming more urgent.

At the meeting of the General Medical Council last week a prolonged discussion occurred upon the regulations for the first year of medical study, and the educational institutions which should be accepted as fit and proper places for passing one year of the obligatory five years of professional study. The main question was whether a year at a grammar school, or similar educational establishment where general subjects as well as science is taught, should count as one year of medical training in the five years' curriculum. For one side it was stated that the laboratories at some of the institutions recognised by the Council were as well equipped as those of some medical schools. It was also urged that chemistry, physics and biology might be considered as an extension of the preliminary education required before medical study, properly so called, can be commenced, and that the medical curriculum required should be four years taken subsequently to passing an examination in them. If this view is accepted at the next meeting of the Council, it would seem, says the *British Medical Journal*, that the whole question of the places at which instruction may be obtained may disappear, for it will be argued that, provided the necessary knowledge is obtained and tested by adequate examination, it will no longer be the business of the Council to concern itself how or where it is obtained, any more than in the case of Latin or any other subject of preliminary education. The subject has been referred to the Education Committee of the Council, and judging from the views expressed during the debate it seems that there are

not a few members who think that scientific education is now provided for so well at schools not strictly medical that one year of professional study may properly be carried out in such institutions.

SCIENTIFIC SERIAL.

Bulletin of the American Mathematical Society, May.—The three papers in the present number were all read at the February meeting of the Society. Non-oscillatory linear differential equations of the second order, by Prof. Bôcher, has for its object the deduction of certain conditions that the equation

$$\frac{d^2y}{dx^2} + \frac{pdy}{dx} + qy = 0$$

should be non-oscillatory. This equation is said to be oscillatory or non-oscillatory in the interval $a \leq x \leq b$, according as it does or does not have at least one solution (not identically zero) which vanishes more than once in this interval. Conditions have been obtained by Picard, but the method used in the present paper is not only entirely different, but yields, in addition, other results not given by Picard's method. In the author's opinion it is also less artificial.—Concerning real and complex continuous groups, by Prof. L. E. Dickson, is an attempt to illustrate certain differences and analogies between related real and complex continuous groups. Lie's theory has been developed chiefly for the latter groups, the modifications necessary for real groups being treated quite briefly.—On holomorphisms and primitive roots, by Dr. G. A. Miller, is devoted to some additional developments along the earlier line adopted by the author in a previous paper (*Bulletin*, vol. vi. p. 337, 1900).—The following works are reviewed, viz.: "Einleitung in die Theorie der Besselschen Funktionen" (Prof. J. H. Graf and Dr. E. Gubler), by Dr. V. Snyder; and "Leçons sur la théorie des Formes et la Géométrie analytique supérieure" (H. Andoyer), by H. S. White.—The usual points of interest, collegiate and other announcements, and list of recent publications are well to the front.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, May 23.—"On the Presence of a Glycolytic Enzyme in Muscle." By Sir Lauder Brunton, F.R.S., and Herbert Rhodes.

For some time physiologists have suspected the presence of some enzyme in muscle which has the power of breaking up the sugar with which the muscle is supplied through the blood, and converting this food into energy with the formation of simpler oxidised bodies. The presence of such an enzyme in fresh muscle juice was apparently proved by Brunton in 1873, but the method of experiment used was open to criticism.

Previous to the present paper the materials used had not been rendered free from possible fermentative organisms, so that it could not be definitely said that the marked glycolytic action exhibited by the juice was not due to some fermenting fungus or bacterial contamination.

The muscle juice was obtained from the yet living flesh of a sheep by comminution with sand and hydraulic expression.

In these later experiments the muscle juice was rendered sterile by filtration through a Pasteur Chamberland candle, the other fluids boiled for considerable periods, and the apparatus disinfected by steam.

Two flasks were prepared, each containing fresh sterile muscle juice and sugar solution; in one the juice was boiled previously to adding the sugar solution.

After incubation at body temperature the sugar in each flask was estimated quantitatively, the result showing a very marked diminution in the percentage of sugar in the flask containing unboiled juice.

Thus it was shown that a substance exists in fresh muscle which has the power of breaking up the sugar molecule, and this substance partakes of the nature of a glycolytic enzyme.

Although an attempt had been made to isolate the enzyme, it is of such a delicate nature that the isolating procedure adopted destroyed its fermenting power.