Switzerland, which since 1873 had maintained stations in mountain passes, &c., has now on the Säntis (8200 ft.) in the canton of Appenzell, one of the best located and equipped summit stations in the world; and in Italy an observatory on Monte Cimone (7100 ft.) in the Apennines, near Lucca, has recently been completed.

On Ben Nevis, the highest mountain in Great Britain (4400 ft.), there is a remarkable station where during ten years an unbroken series of hourly observations has been maintained. There is a base station at sea-level, and the advantageous situation on the west coast of Scotland renders the results of the observations, which have been discussed by Dr. Buchan, of great value.

It is impossible to even enumerate all that has been gained from these high-level observations, but the chief results attained, or still sought, may be thus summarised: Determination of normal decrease of temperature and humidity with elevation; abnormal changes with elevation in cyclones (or areas of low pressure near the ground) and in anti-cyclones (or areas of high pressure near the ground); height to which these cyclones and anti-cyclones persist, and the circulation of the air around each at various levels.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—At the Encaenia, or Commemoration of Oxford Founders, held on June 26, the honorary degree of D.C.L. was conferred upon Sir W. H. Flower, Prof. Michael Foster, M. Edward Naville, the distinguished Swiss Egyptologist, and Sir A. W. Franks, President of the Society of Antiquaries.

SIR J. E. GORST has succeeded Mr. Acland as Vice-President of the Council for Education.

MR. HERBERT HANCOCK, Mathematical and Physics master in Bancroft's School, Woodford, London, has just been appointed to the headmastership of the Hipperholme Grammar School, an important science centre for the North of England.

AT a Convocation of Durham University on Tuesday, June 25, the Sub-Warden announced that the new Charter had been received by which power is given to the University to confer degrees upon women in all faculties except Divinity. Among a large number of degrees conferred was that of Bachelor of Science on Miss Ella Mary Bryant, Durham College of Science, Newcastle.

IN consequence of the shortly ensuing General Election, the annual meeting of the National Association for the Promotion of Technical and Secondary Education, and the Conference of representatives of Technical Education Committees, which had been arranged to take place in London on July 11, have been postponed.

ON Thursday last a very successful and numerously attended conversazione was held at University College, London. The guests were received on the grand staircase by the President (Sir John Erichsen, Bart., F.R.S.) and Deans of Faculties. The various scientific departments of the College were thrown open, and many interesting exhibits contributed to the success of the evening. Among the latter were included the spectra of argon and helium, various electrical and physical experiments, living seaweeds and marine animals, new models of dividing nuclei, &c.

THE University of London has conferred the degree of Doctor of Science, without examination, on Mr. Th. Groome, Professor of Natural History at the Royal Agricultural College, Cirencester, in recognition of the merits of his original researches and published papers.

THE Berlin correspondent of the *Lancet* writes as follows:—"The publication of a rumour that the authorities intend to abolish the University of Jena, has caused a stir in the scientific world, the university being one of the oldest in Germany, and having often occupied a leading position. Financial reasons are said to have induced the authorities to arrive at this decision. The constitution of the University of Jena is somewhat peculiar. It is not under the jurisdiction of a single State, but belongs jointly to four States of Thuringia, viz., Saxe-Weimar, Meiningen, Coburg, and Altenburg. The Governments of those small States entirely control the affairs of the university. If, for instance, a new professor is to be appointed they must all consent to his nomination. To put a stop to the further propagation of this rumour, the official journals of the four united Governments declare that the continued existence of this venerable university is assured both by public grants and by large donations recently made by old pupils and others. This communication has been received with general satisfaction, particularly in the town of Jena itself, which is entirely dependent upon the university."

SCIENTIFIC SERIALS.

The Mathematical Gazette, No. 5 (May 1895).—This number opens with a paper read by Dr. C. Taylor at the annual meeting of the A.I.G.T. in January last, of which the title is "The Syllabus of Geometrical Conics." In it the writer passes in review what he has done in the subject since his first contribution to the *Messenger* in 1862. Amongst other reasons for writing at this date, Dr. Taylor states: "I have, as I think, arrived at something like finality in my own view of the way in which the subject should be approached." It is on this ground that we commend the author's paper to persons interested in the teaching of geometrical conics. They will derive profit from it. The second of the mathematical worthies noticed by Mr. Heppel is John Dee, noteworthy from his contributions to Billingsley's translation of Euclid. The notes, solutions of *Gazette* questions, solutions of examination questions, and questions for solution, which are all very useful for the readers addressed, are, with the enlarged form of the journal, greatly increased in number and variety. Several recent text-books are also the subject of judicious and discriminating criticism. The *Gazette* should certainly have a successful career.

American Journal of Mathematics, vol. xvii. No. 3.—On irrational covariants of certain binary forms, by E. Study, discusses the most important covariants of binary cubics and quartics and of some other special binary forms. After paying tribute to the methods of Cayley and Clebsch, the author gives his reasons for working the whole subject over again. By means of a carefully chosen system of notation, he presents his results, as he believes, in a form that will be useful to those who have to deal with the numerous applications of the binary quantics of the lowest orders. In some detail (pp. 185–215) he examines the cubic, and the quartic and octahedron, and points out several small numerical errors in previously obtained results. The same writer contributes an article on the connection between binary quartics and elliptic functions. This is an application of the theory developed in the previous article to elliptic functions. In it he compares the relations among the rational and irrational covariants of a quartic with the identities among the four theta-functions; by this means a new light is thrown upon the familiar formulæ, and at the same time a number of new results are derived, which make the theory in question, the author states, in a certain sense *complete*. Stress is laid upon the fact that all the results are obtained by means of *actual calculations*, and that no use is made of the method of indeterminate coefficients.—Semi-combinants as concomitants of affiliants, by H. S. White, opens up a new path apparently (pp. 234–265): "I consider all ground forms that are included in the conjunctive of the system, and those of them that satisfy invariant equations of suitable order, linear in their coefficients, I designate as *affiliant* ground forms." The paper shows that not only is every semi-combinant ground form an affiliant, but also every affiliant ground form is a semi-combinant. Three short notes follow, viz.: Simplification of Gauss's third proof that every algebraic equation has a root, by M. Böcher, a note read before the American Mathematical Society (*cf.* NATURE, p. 189); note sur les lignes cycloïdales, by R. de Saussure; and note on lines of curvature, by T. H. Taliaferro.

SOCIETIES AND ACADEMIES.

LONDON

Royal Society, April 25.—"*Acokanthera Schimperi*: Natural History, Chemistry, and Pharmacology." By Prof. Thomas R. Fraser, F.R.S., and Dr. Joseph Tillie.

Specimens of the wood from which the Wa Nyika, Wa Gyriama and Wa Nyika arrow-poison is prepared have been examined by us and referred to the genus *Acokanthera*, and