

3. Forms due to the action of streams and rivers.
4. Forms due to the action of life.
5. Forms due to the action of lightning.
6. Forms due to the action of sun-heat.
7. Forms due to the action of the atmosphere.
8. Forms due to the action of frozen water.
9. Forms due to the action of the sea.

Each family is then subdivided into genera and species or specific forms.

In the discussion which followed, Prof. Gregory said that the initial difficulty lay in the fact that different classifications were required by geography and by geology. Dr. Falconer had restricted the term land-form to what may be called the simple land forms, whereas the term was originally used for the greater features which may be called compound land forms. The geographer needs a classification which is based more on form than on origin, and uses familiar terms, such as mountain and valley, with the help of which he cannot afford to dispense. At the same time, Prof. Gregory thought that Dr. Falconer's classification would be of great value as a complete systematic tabulation of land-forming processes. Prof. Grenville Cole said that a systematic classification of land forms might tend to check the descriptive faculty of the teacher. Brief but comprehensive description in language familiar to the reader or hearer was needed to bring home the relation of surface features to man's life among them. Close definition, especially in the Greek language, might tend to obscure the beauty of a landscape. Mr. G. G. Chisholm considered that the distinctive feature of geography was the study of the influences of terrestrial local conditions and place relations. For this, of course, description was necessary, but he failed to see the utility for geographical description of the subdivisions of simple land forms proposed by Dr. Falconer.

The discussion with Section H on Racial Distribution in the Balkans was opened by Prof. G. Elliot-Smith. An account of it will appear under the proceedings of Section H.

In the afternoon a paper was read by Mr. P. M. Roxby on North China and Korea, in which he embodied many of the observations he had made in these regions during his tenure of an A.K. fellowship. He dealt principally with the railway situation, the relations of China to Russia and Japan, China's interest in the European war, and the work of the Japanese in Korea. The paper was illustrated by an exceptionally fine set of lantern-slides. Dr. R. N. Rudmose Brown followed with an account of the political and economic position of Spitsbergen at the outbreak of war. He also explained the results obtained by Dr. W. S. Bruce's expedition there in 1914.

On Friday, the first business before the section was the consideration of the report of the committee appointed to inquire into the choice and style of atlas, textual and wall maps for school and university use. Thereafter a paper was read by Mr. Raymond Curtis on the distribution of population in the district round Leek, in which he showed how in the agricultural area the village nucleus of farmhouses might develop in turn into the inn-village, the shop-village, the fair-village, and the market-town. Mr. C. B. Fawcett discussed the development of the middle Tees and its tributaries. He considered that the river system as a whole is in a comparatively early stage of development, but that it is the product of at least three distinct cycles of erosion. The morning sitting concluded with a paper by Prof. H. J. Fleure on the distribution and movement of population in South Britain in early times. In Neolithic times the chief

areas occupied in England were the chalk downs, the moorlands of the south-west, the Cotswold top, a few patches, especially near Birmingham, in the Midlands, some valleys in the East Anglian Chalk, as well as a few chalk ridges, e.g. above the Fen edge, the Pennines, moorland tops in South Wales, etc. Descendants of the dark, long-headed Neolithic folk who occupied these uplands are still found in the valleys around them, except that they have been nearly washed out along the Chalk in the south, which has been the scene of many invasions. The valleyward movement of people in Britain is therefore of great importance, and evidence was given of its various stages and sociological results.

The proceedings of the section concluded on Friday afternoon, when Prof. Patrick Geddes read a paper on the study of cities, and at its conclusion conducted a party over an exhibition arranged by himself and Miss Barker of maps, pictures, books, and broad-sheets illustrating the war, and of regional surveys illustrating the geographical and historical growth of cities.

JOHN MCFARLANE.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

LONDON.—A memorial service for members of the University who have fallen in the war was held at the Temple Church on November 1. The service was conducted by the Master of the Temple, assisted by Bishop Hine and the Bishop of London. The Bishop of Kingston was the preacher. Included in the list of the 250 graduates and students commemorated are the forty-two from University College, thirty from King's College, eighteen from the Royal College of Science and the Royal School of Mines, sixteen from the City and Guilds College, seventeen from the South Eastern Agricultural College, seventeen from St. Bartholomew's Hospital, fourteen from Guy's Hospital, nineteen from London Hospital, and eleven from St. Mary's Hospital.

It is understood that the appointment of a Principal to succeed Sir Henry Miers is to be postponed.

The first list of students serving in the war, to whom honorary war degrees have been granted, has been published.

OXFORD.—The Vice-Chancellor's choice of a Romanes lecturer has this year fallen on an Oxford resident, viz., Prof. E. B. Poulton, Hope professor of zoology. The subject chosen, "Science and the Great War," is one to which Prof. Poulton is known to have given great attention. For many years past he has lost no opportunity of advocating an increased attention to the results of scientific research in relation to all forms of national activity, whether warlike or peaceful, and he has consistently deplored the indifference to the lessons of science displayed by most of our leading politicians and statesmen. A valuable and interesting utterance on his part is confidently looked for. The lecture will be delivered at the University Museum, on Tuesday, December 7, at 3.30 p.m.

It is stated in the *Pioneer Mail* of October 9 that on October 1 the Bill to establish and incorporate a teaching and residential Hindu university at Benares was passed into law. Now that the Bill has been passed, the promoters are about to address themselves to details connected with the institution. The Viceroy will lay the foundation-stone early in February. It is hoped that the work of the University will be entered upon by July next, though, of course, at first on a limited scale.

THE calendar for the present session of the University of Sheffield provides an excellent example of the numerous directions in which a modern university succeeds in meeting the needs of the area in which it is situated. The industries of the Sheffield district are reflected in the degrees in applied science which the University is prepared to confer. Students may take courses in preparation for the degrees of bachelor, master, or doctor in engineering science, or in metallurgy. In both these subjects, too, considerable specialisation is encouraged. The examinations of the University admit to associate membership of various professional institutions, and are also recognised by certain Departments of State. The University grants a diploma in domestic science. A two years' course of work in the University and the Sheffield Training College of Domestic Science has been arranged. The scientific portion of the course will be taken at the University, and the technical work in cookery, laundry, and housewifery at the training college. The calendar also provides full information of a well-planned University extension scheme which has been developed, and of numerous flourishing university societies. At the same time the more usual University work is carried on in the faculties of arts, pure science, medicine, and law, concerning which detailed particulars are given.

THE abridged calendar for the current session of University College, University of London, has been received. Detailed guidance is given as to the courses which should be taken by students proposing to graduate in one of the faculties of the University. The calendar points out that facilities for post-graduate work and research are provided in all departments of the college. There is a large science library in which the books concerned with the various scientific departments are grouped. The library contains all the most important scientific periodicals (British and foreign). The particulars of the studentships, scholarships, fellowships, and prizes for research awarded by the college run to forty-eight pages. The list of original papers and other publications from the various departments of the college since the provost's report in last year's calendar fills fourteen pages, and is good evidence that the reputation of the college as a centre for research is being worthily maintained. In his report, printed in the calendar, on the work of the last session at the college, the provost said the benefactions of the year had inevitably been fewer than usual, but he was able to announce that upwards of 1100*l.* had been added to the fund for the new chemical laboratories. He said a further sum of between 800*l.* and 900*l.* was needed for the partial minimum equipment for this session. The equipment necessary for the new physico-chemical laboratory is of a special and expensive character, and will cost about 10,000*l.*

THE calendar for the present session of the University College of North Wales has been received. Students of the college prepare for degrees of the University of Wales, which have been so framed as to allow great freedom in the choice of subjects of study. Each degree in arts or science may be regarded as a certificate of the preliminary knowledge required at matriculation, and of subsequent study pursued at one of the constituent university colleges for a period of three years, and tested at each stage by university examinations. Advanced study is encouraged not only by the existence of advanced and honours courses, but also by the regulations for the higher degrees, and by the award of university fellowships and studentships for research. As an instance of the encouragement given to research we notice the calendar states the professor of mathematics is glad

to furnish subjects for research in applied mathematics to candidates who have acquired a substantial knowledge of the subject-matter of the honours course and to direct their work. A number of aeroplane problems are generally available. In the agricultural department of the college, students may prepare for degrees in agriculture and rural economy or for the college diploma in agriculture, and their practical work is assisted by the facilities provided at the college farm of 675 acres. With the aid of a grant from the Development Fund, well-equipped laboratories have been provided, and full facilities are now available for the investigation of problems submitted to the department.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, October 26.—M. Ed. Perrier in the chair.—G. **Bigourdan**: Astronomical observations made in France before the foundation of the Academy of Sciences. An outline of the life of Fabri de Peiresc (1580–1637).—H. Le **Chatelier** and B. **Bogitch**: The preparation of alkaline nitrates starting with calcium nitrate. The preparation of ammonium nitrate by the interaction of calcium nitrate and ammonium sulphate presents difficulties on the large scale owing to the pasty mass being nearly impossible to filter. After heating under pressure in a closed vessel to 150° C., the calcium sulphate forms larger crystals, and the ammonium nitrate can be readily removed by washing.—Fréd. **Wallerant**: Some crystallographic peculiarities of aniline nitrate. This salt is dimorphous, with a well-marked transition point at 97.6° C.—Henryk **Arctowski**: Variations in the ratios between faculæ and sun-spots.—Luc **Picart**: A criterion for the identification of the minor planets.—Ernest **Esclangon**: The quasi-periodic integrals of a linear differential equation.—A. **Angelesco**: Associated polynomials with several variables.—St. **Procopiu**: Electromotive force due to motion. A study of the electromotive forces set up in a symmetrical cell (metal-electrolyte-metal) by motion of one electrode or of the electrolyte.—A. **Guilliermond**: Some cytological observations on the mode of formation of anthocyanic pigments in flowers.—G. **Riviere** and G. **Bailhache**: *Amygdalopersica formonti*. An account of some peculiarities in the growth of an almond grafted on to a peach tree.—Th. **Guilloz** and E. **Stock**: A compass for the location of metallic fragments in the body.—E. **Vastiar**: The structure of the auditory cell.—F. **d'Hérelle**: The biological method for the destruction of locusts. Details of an improved method for utilising the *Coccobacillus acridiorum* for the destruction of locusts.—E. **Aubel** and H. **Colin**: The reaction of the medium and filtration of toxins.

BOOKS RECEIVED.

- The R.P.A. Annual for 1916. Pp. 80. (London: Watts and Co.) 6*d.* net.
- Illustrations of Positivism. By Dr. J. H. Bridges. New edition, enlarged and classified by H. G. Jones. Pp. xiii+480. (London: Watts and Co.) 3*s.* 6*d.* net.
- The Dramas and Dramatic Dances of Non-European Races in special reference to the Origin of Greek Tragedy. By Prof. W. Ridgeway. Pp. xv+448. (Cambridge: At the University Press.) 1*s.* net.
- Field Analysis of Minerals. By G. D. McGrigor. Pp. 86. (London: *The Mining Magazine*.) 3*s.* 6*d.* net.