

also provided so that reference can be made by means of the alternative name if the full one is unknown. The precautions needed in the use of the compounds are stated where applicable.

### Age and Evolution of the $\zeta$ Persei Group of O- and B-Type Stars

A PAPER on "The Age and Evolution of the  $\zeta$  Persei Group of O- and B-Type Stars", by A. Blaauw, has been published in the *Bulletin of the Astronomical Institute of the Netherlands* (11, 433; 1952), and this follows up a previous publication (No. 363; 1944), in which the moving cluster of early-type stars including, among others, the bright stars  $\zeta$  and  $\xi$  Persei, was described. Further studies, which are dealt with in the present paper, lead to some interesting conclusions with reference to the evolution of this group and to an estimate of the age of its members. The principal observational data concerning the stars of the group are contained in a table, and two figures show the adopted linear relation between the components of proper motion and the co-ordinates of the star. The slope of this relation is taken as a measure of the apparent expansion, and this relation should exist in the following circumstances: the present dimensions of the group are large compared with the dimensions at the time when the stars began their independent motions; and these motions started at the same time and have since been uniform. In the circumstances the linear relation is independent of the distribution of the sizes and of the directions of the velocities, and on the above two assumptions it was found that the time which has elapsed since the beginning of the uniform motions is 1.3 million years. It is admitted that this seems surprisingly short when compared with the period of revolution of the stars in the solar neighbourhood around the galactic centre—about 220 million years—or with the current estimates of the age of the sun. It would be possible to allow a longer time, however, if the condensation of the interstellar material into stars took place already during the process of contraction of the original cloud, but the difference would amount to only a few hundreds of thousands of years, so the figures given above must be accepted as approximately correct. In addition, the presence of high-luminosity stars like  $\zeta$  and  $\xi$  Persei points to a small maximum age which can be estimated on the assumption of radiation of energy in the past proceeding at the same rate as at present, the source of the energy being the transformation of hydrogen into helium. Maximum ages of 7.9 and 7.4 million years for  $\zeta$  and  $\xi$  Persei, respectively, are thus found, but for various reasons the true ages may be much less. An interesting feature of the group is the presence of a very small cluster of faint stars immediately south of  $\sigma$  Persei, and the photographically determined proper motions for this cluster are shown in a table.

### Latin American Course in Santiago on Electrophoresis

THE second of a series of international training courses, in collaboration with leading Latin American research institutions, in order to introduce and improve the use of modern techniques and methods in scientific research in Latin America, organized by the Unesco Science Co-operation Office for Latin America, was inaugurated in Santiago de Chile on April 20. The course, which was full-time and lasted for three weeks, dealt with electrophoresis and was

attended by research workers from Argentine, Brazil, Chile, Colombia, Ecuador, Peru, Uruguay and Venezuela. The instructors for the course were drawn from the University of Chile with Prof. Dan H. Moore, head of the Laboratory of Electrophoresis of the College of Physicians and Surgeons, Columbia University, New York, as guest lecturer. The first of these courses dealt with the methodology of radioisotopes in biological research and was held in the Laboratory of Radioisotopes of the University of São Paulo, Brazil, during January 14–February 28 (see *Nature*, February 14, p. 289). The next two courses planned by the Unesco Office will deal respectively with electron microscopy and chromatography, and further information can be obtained from Centro de Cooperación Científica para América Latina de la Unesco, Bulevar Artigas 1320, Montevideo, Uruguay.

### Biology and Productivity of the Sea

A SYMPOSIUM on "The Biology and Productivity of the Sea" will be held, under the auspices of the Institute of Biology, in the rooms of the Royal Geographical Society during September 18–19. The subjects include zoology, botany, fisheries and oceanography, and papers will be contributed from the British Museum (Natural History); National Institute of Oceanography; Fisheries Laboratory, Lowestoft; Marine Laboratory, Aberdeen; Marine Laboratory, Plymouth; "Discovery" Investigations; Institute of Seaweed Research; Fisheries Experiment Station, Conway; Food and Agriculture Organization; Colonial Office. Other authors in Copenhagen, Malaya, Southampton and Cambridge are contributing. The chairmen of sessions are: Dr. E. Hindle, Prof. F. E. Fritsch, Dr. F. N. Woodward, Mr. F. S. Russell and Mr. H. J. Johns. Further information can be obtained from the General Secretary, Institute of Biology, Tavistock House South, Tavistock Square, London, W.C.1.

### Announcements

THE Albert Medal of the Royal Society of Arts for 1953 has been awarded to Dr. E. D. Adrian, Master of Trinity College, Cambridge, for his outstanding contributions to neuro-physiology. This Medal, which is the highest award in the gift of the Royal Society of Arts, was instituted in 1864 to commemorate the presidency of the Prince Consort during 1843–61, and is given annually for "distinguished merit in promoting Arts, Manufactures and Commerce".

THE following appointments have been made in the Queen's University of Belfast: Dr. I. T. A. C. Adamson, formerly of Princeton University, to a lectureship in pure mathematics; Dr. A. R. Pinder, of Magdalen College, Oxford, to a lectureship in organic chemistry.

THE Heineman Foundation for Research, Educational, Charitable and Scientific Purposes, Inc., is offering a prize of 5,000 dollars, known as the "Dannie Heineman Prize", to be awarded every three years to the author of an outstanding book or manuscript in the mathematical or physical sciences. The object of the prize is to encourage the writing of books on a high scientific level which open up important fields of research. Those wishing to compete for the prize should submit two copies of the book or manuscript in question to the Secretary of the Foundation, 50 Broadway, New York 4, N.Y., not later than December 31, 1955.