

large exhibition halls which have been allocated respectively to botany; insects and allied forms; marine and freshwater biology and reptiles; geology, minerals and palaeontology; and man. The new wing also contains a machine shop, a spirit room and extensive storage accommodation. Another interesting development at this well-known and progressive museum is that a loan was raised by the Government for the erection of a block of four flats. The flats are rented to members of the staff, and it is planned to repay interest and capital on the loan in twenty years.

### Orientation of the Orbital Planes of Visual Binaries

CERTAIN conclusions are deduced by A. Opolski, of the Stockholm Observatory, with respect to the orbital planes of binaries on the basis of the distribution of slow-moving physical pairs with different apparent separations of components, and these conclusions are described in a paper entitled "Orientation of the Orbital Planes of the Visual Binaries" (*Arkiv för Astronomi*, 1, No. 18; 1952). Very briefly, the method is as follows. If we compare two slow-moving binaries, each of the brighter components having the same spectral type and the same apparent magnitude, and differing only in the apparent separation  $s$  of the components, it is very probable that such a pair of systems will have, on the average, equal absolute magnitudes, equal masses and equal distances from the sun. The difference in  $s$  in these circumstances is chiefly due to the difference in the inclinations  $i$  of their orbital planes. For obvious reasons, when  $s$  is small  $i$  is large—probably approaching  $90^\circ$ —and when  $s$  is large  $i$  is small—approaching  $0^\circ$ . All this is explicable because of the effect of perspective shortening, and for this reason there should be a correlation between  $s$  and  $i$  in groups of physical pairs with known dynamical parallaxes and with similar spectral types and apparent magnitudes. To obtain some idea of the validity of this assumption, all slow-moving physical pairs with their known trigonometric or spectroscopic parallaxes listed by Russell and Moore are dealt with. These stars are grouped according to spectral types and apparent magnitudes of brighter components and are arranged in each group according to  $s$ . Each group is then divided into three parts, each of which contains nearly the same number of stars, and two limiting values of separation  $s_1$  and  $s_2$  ( $s_1$  being greater than  $s_2$ ) are determined so that stars with separation  $s > s_1$  form group i with small inclination,  $s_1 > s > s_2$  form group ii, and  $s_2 > s$  form group iii with large inclination. Numerical values of  $s_1$  and  $s_2$  are found in this way, and a comparison is made between the trigonometrical and dynamical parallaxes for stars belonging to groups i and iii. The stars selected for this purpose have their trigonometrical parallaxes  $t$  within the limits  $0.100'' > t \geq 0.025''$ , and the difference between the two mean values of dynamical parallaxes corresponding to the same mean trigonometrical parallaxes is very pronounced. This can be explained only by the systematic difference in inclination of the orbital planes of stars belonging to the groups i and iii, and substantiates Opolski's assumption.

### Geographical Exploration To-day

THE Department of Extra Mural Studies of the University of London is arranging a series of twelve weekly illustrated lectures on "Geographical Exploration To-day", to be given in the Lecture Theatre, University College Medical School, London, W.C.1,

on successive Wednesdays at 6.30 p.m., commencing September 30. The subjects to be dealt with and the respective lecturers are as follows: general introduction, by Prof. F. Debenham; arctic exploration, by J. M. Scott; antarctic exploration, by J. M. Wordie; exploration of the ocean depths, by Dr. G. E. R. Deacon; exploration in Central Africa, by Prof. F. Debenham; exploration in Ceylon, by B. H. Farmer; North-East Land, by Dr. K. S. Sandford; Cambridge Jontunheim expedition, by W. Vaughan Lewis; team-work in Colonial territories, by A. T. Grove; modern navigation by sea and air, by W. L. Harrison; exploring and climbing mountains, by J. H. Emlyn Jones; and exploring the past, by Prof. W. G. East. The fee for the course is 15s.; tickets for single lectures (obtainable at the lecture room on the occasion of each lecture) are 2s. Applications for admission tickets should be addressed to the Cashier, University of London, Senate House, Malet Street, W.C.1, and marked 'Extension courses'.

### Announcements

DR. D. W. ADAMSON, head of the Chemical Division of the Wellcome Research Laboratories, Beckenham, has been appointed research director of the Wellcome Foundation, Ltd., and director of the Wellcome Research Laboratories, in succession to Dr. J. W. Trevan, who has retired after thirty-three years of service with the company. Dr. Adamson has also been appointed to the board of the Wellcome Foundation, Ltd.

IN his Pedler Lecture, "The Life and Times of Sir Richard Gregory, Bt., F.R.S., 1864-1952" (*Nature*, June 13, p. 1040), Sir Harold Hartley remarked that the Elihu Root Lecture given by Sir Richard Gregory at the Carnegie Institution of Washington and entitled "Cultural Contacts of Science" "is unknown in his own country". The substance of this Lecture was published in *Nature*, 142, 1059 (1938), and we are now informed by the Carnegie Institution that a limited number of copies of the Lecture are available free of charge.

THE British Institute of Recorded Sound, Ltd., in conjunction with the University of London, Department of Extra Mural Studies, is arranging a course of twelve lecture-recitals illustrating various uses of sound recordings in the study of music, drama, literature and science. The three lectures with a bearing on scientific themes will be as follows: October 21, the sounds of wild animals and birds, by Ludwig Koch; January 13, folk music, by Frank Howes; and February 10, recording dialects and folklore, by David Abercrombie. All twelve lectures will be given on Wednesdays at fortnightly intervals, starting on October 7, at the Institut Français, Queensberry Place, London, S.W.7. The fee for the course is £1 (2s. 6d. a single lecture). All inquiries and applications should be made by post to the Honorary Secretary, British Institute of Recorded Sound, 36 Redcliffe Close, Old Brompton Road, London, S.W.5.

ERRATUM. In a letter on "Hæmoglobin in Protozoa" (*Nature*, Sept. 5, p. 451, col. 1) the sentence beginning on line 13 from the bottom should read: "Aerated suspensions of *Tetrahymena* showed a weak but distinct  $\alpha$ -band of oxyhæmoglobin at about 582  $m\mu$  and a less distinct  $\beta$ -band at about 545  $m\mu$  which was somewhat masked by the absorption bands of cytochrome".