

NEWS and VIEWS

Sir D'Arcy W. Thompson, C.B., F.R.S. :
A Professorial Record

"You will never live to my age, without you keep yourselves in breath with exercise, and in heart with joyfulness"—and so successfully has Sir D'Arcy Thompson fulfilled the injunction of Sir Philip Sidney that ere Christmas Day he will have completed sixty years as professor of natural history. On December 22, 1884, at the age of twenty-four, he was elected, as its first incumbent, to the chair of natural history in the newly opened University College of Dundee. Here, as at Edinburgh Academy, he was fortunate in his environment of good companions: his unsuccessful competitors for the chair included J. T. Cunningham, W. E. Hoyle and Patrick Geddes; his new colleagues in due course numbered among them as young professors who later gained wide recognition, Sir Patrick Geddes; who had accepted the chair of botany, Sir Alfred Ewing, principal and vice-chancellor of the University of Edinburgh, Sir William McCormick, secretary to the Carnegie Trust for the Universities of Scotland, Sir James Walker, professor of chemistry in the University of Edinburgh, and Sir William Peterson, principal of McGill University, Montreal. In 1897, University College, Dundee, which had begun as an independent institution, became an integral part of the University of St. Andrews, and in 1917, on the retirement of Prof. W. C. McIntosh from the chair of natural history in St. Andrews, which he had occupied since 1882, it was a fitting and natural move that D'Arcy Thompson should be transferred to the senior chair. His predecessor retired in his seventy-ninth year; in his eighty-fourth Sir D'Arcy continues to teach with vigour and to take part in many activities outside the University.

In his early years in Dundee, Sir D'Arcy Thompson, like many another, was drawn to the marine invertebrates, particularly to the Coelenterates and Bryozoa, and began the building up of a collection which eventually contained an unusual number of authenticated representatives of invertebrate species. But his interests were wide, and his appointment as a delegate to the Behring Sea Fisheries Conference in 1897 and his selection in the following year to be scientific member of the Fishery Board for Scotland gave public recognition to what has remained a main aspect of his scientific work. For forty years, that is until the Fishery Board was disbanded recently, he retained its scientific membership and guided the development of its scientific investigations; and his own published papers on the statistics of fisheries and the distributional occurrence of rare species of fishes show his personal predilection. This was but one of many interests—the classics and the natural history of the ancients, the perfection of adaptation in many creatures, the influence of physical law in moulding the parts of animals, growth and form; but perhaps the fundamental and rejuvenating interest throughout has been the outlook of the born naturalist, which finds its satisfaction by the shores of the North Sea or in the woods of the Spey valley.

Conway Evans Prize :

Sir Thomas Lewis, C.B.E., F.R.S.

THE presidents of the Royal Society and of the Royal College of Physicians have awarded the Con-

way Evans Prize to Sir Thomas Lewis, in recognition of his great contribution to medical knowledge on the normal and abnormal mechanisms of the heart and circulation of the blood. This prize, in accordance with the will of the late Dr. Conway Evans, who was medical officer for the Strand District, is awarded from time to time for scientific work of outstanding distinction. It was first given to Sir Charles Sherrington in 1927 and since then to the late Dr. John S. Haldane in 1933, and to Sir Frederick Gowland Hopkins in 1938. It will be seen that so far the prizes have been awarded infrequently with the intention that they should be given only in recognition of outstanding contributions to science, thus fulfilling the intention of the donor. Sir Thomas Lewis has worked essentially in a field which he has called 'clinical science', and he has clearly indicated how the modern developments of science in general can be applied to the many problems of medicine at the bedside.

An International Office for Education

DR. HARLOW SHAPLEY, speaking on behalf of the U.S. Office of War Information, recently broadcast an address in the United States with reference to an International Office for Education. He pointed out that both education and lack of education play a part in our present world-wide troubles. The high technical training in the armed forces, and also in the war factories that back the armies and navies, represents a type of education that is indispensable in our effort to bring back peace and social sanity to the world. But it is a lack of education—a deficiency in elementary social education, or a perversion of it, that has brought the madness of totalitarian war upon us. In too many parts of the world the fundamental education has not been planned so as to teach us how to live and let others live intelligently in the kind of world that modern technical civilization has given us. In the social evolution that is necessary for a good and progressive world society, we must have a basic education so widespread, and so democratic in spirit, that demagogues cannot easily lead us into inhuman and selfish and false creeds. We must have, if possible, in all grades of our educational systems, the desire and freedom to question statements, to challenge dogmas. We must question our teachers, and not be blindly led by them. We should encourage internationalism in our leaders. We must have, especially in our elementary schools, a universal recognition that there are international allegiances as well as national responsibilities, that we are a part of a world-wide human society.

It is to facilitate the reform or the improvement of educational systems in all countries that the setting up at the earliest time practicable of an International Office for Education is suggested. Such an office is not intended to be a temporary affair, concerned with rehabilitation problems. Such reconstruction work is necessary and immediately urgent. Steps toward carrying it through are well under way. But of necessity, rehabilitation is a re-establishment of the conditions that existed before the blight of war passed over the land. Rehabilitation is in a sense backward-looking, rather than forward-looking and evolutionary. The advocated International

Office for Education should be set up for all time, and be oriented toward the future, toward a socially improving future. Particular educational systems in any country are not suggested. Rather, the International Office should act as a clearing-house for educational ideas, an information centre for the educators and for the educational bureaux and ministries that need guidance and specific assistance in the improving of their work. In the specialized sciences and arts there have long been useful international unions. In their limited fields such organizations have shown how relatively simple it is for the people of all nations to co-operate. What has been done in the sciences can certainly be done in the general educational field. The great usefulness of the International Labour Office during the past two decades shows how important, for international understanding, an organization of this sort can be. That the establishment of an International Office of Education appeals to Americans of all sorts has been indicated by the rapid support received from scores of important organizations—from church, labour, industry and education—and from numerous members of the National Congress. It is hoped that the American Government will join with the other free governments of the world, in an official recognition of the essential part of education in the planning for a better and more peaceful world.

Visual Aids in the Schoolroom

THE remarkably comprehensive and suggestive paper recently read at the Royal Society of Arts by Mr. R. W. Moore, headmaster of Harrow, calls for special comment. The progressive teacher, he said, is alive to the uses of the epidiascope, and films have established themselves as an important subsidiary in schools. In the past, visual factors have been neglected, no doubt. Yet, he said, we must ask ourselves whether worse dangers than those of neglect are not involved in the uncritical multiplication of visual aids now prevalent in some quarters. Illustration is confused with explanation. Excess of detail, leading to distraction and irrelevance, abounds. True, the development of new processes promises a great enrichment for teacher and pupil; but our chief need is that of a psychology of education which will take account of these visual adjuncts and order them. The subjects which most need visual aids, said Mr. Moore, are science, history and geography. Of the three, he proceeded, science is the best case, because observation has long since been recognized as basic in the scientific tradition, and also scientific men have a professional bias towards, and a mechanical dexterity in, the manipulation of visual aids. History is the most difficult to accommodate to such aids. Geography stands between. It is the study of man in his natural environment. As a subject, it has only recently emancipated itself from the verbalism of the academic tradition. It should have its roots in observation and begin with local investigation. But how are we to extend the process towards a knowledge of world geography? How is the child in a poor London school to observe India and South America? Films are here intensely valuable, but the material available is sadly thin. The present needs are: (1) that research and experiment be made inside the teaching profession towards ascertaining what visual aids are appropriate to particular subjects and purposes, and (2) that there should be thorough co-operation between teachers and manufacturers before and during production.

A Natural Elastic Polyester

SOME of the newest and most fascinating developments in applied science lie in the field of high polymers—and yet the story of high polymers, since they form the principal physico-chemical basis of life, is one of the oldest and most fundamental in the world. Most natural chain-molecules still cannot be synthesized by man; but he can build many others that are not found in Nature. Among the latter were thought to be the polyesters, first synthesized by Carothers and Arvin in 1929. It is reported now by A. R. Kemp and H. Peters (*India Rubber World*, 110, 639; 1944) that what seems to be very likely a polyester constitutes the highly elastic skin that fits tightly round the seeds of *Smilax rotundifolia* Linn. The ripe berries usually contain three seeds about $\frac{1}{2}$ cm. in diameter, each enclosed in a membrane about 0.003 cm. thick. On removal, the membrane is found to be stretchable by 300–400 per cent and to give then a typical X-ray fibre photograph with a probable fibre period of about $22\frac{1}{2}$ Å. This finding, taken in conjunction with chemical analyses carried out on the skins both before and after hydrolysis with alcoholic caustic potash, indicates that the main component is a polyester formed by the repeated condensation of a unit having 17 or 18 carbon atoms in the chain with two hydroxyl side groups, the suggested empirical formula of the monomer being $C_{18}H_{36}O_5$. The conclusions are for the present tentative, but they are by no means unconvincing, and the results of further investigation—very much worth while—will be awaited with interest.

Earthquake in Japan

ONE of the most violent earthquakes of recent years was recorded by the seismographs at Kew, West Bromwich, New York and Bombay, and probably throughout the world, on December 7. At West Bromwich it was recorded at 4h. 48m. 38s. G.M.T., and the waves were so violent that the recording mechanism was upset. At Fordham, New York, the Rev. J. J. Lynch believes from a preliminary investigation of his records that two shocks were recorded, at 12.49 and 12.53 a.m. (local time). The Japanese News Agency stated that the Island of Honshu was affected, and that it was believed that the epicentre was in the Sea of Nshu. The Tokaido district was affected and also Shizuoka, Hamamatsu, Nagano and Nagoya, the third largest city of Japan. There was some damage to property and a seismic sea-wave affected Shizuoka. It appears unlikely that further details will be obtainable from Japan until the end of the War; but this was undoubtedly a very great earthquake, and when the records are examined closely the epicentre will be found more precisely.

The Phosphorus Cycle in Nature

FOR his presidential address to the Geological Section of the Congress of the South Eastern Union of Scientific Societies, held on October 14, Dr. K. P. Oakley took as his subject "Man and the Migrations of Phosphorus". For some time after the earth's formation, the phosphorus cycle in the sea was simple, the phosphate ions being built up into the earliest forms of organic life and released again at their death, the only loss occurring through the precipitation of phosphate ions accumulated at the lower levels, with the formation of sedimentary rock phosphate beds. Following the emergence of life from the sea and the