

NEWS and VIEWS

Committee on Technical Education

MR. BUTLER, President of the Board of Education, has announced in a Parliamentary written answer that the following have been appointed members of a departmental committee to report on higher technological education in England and Wales: Lord Eustace Percy (*chairman*), Dr. D. S. Anderson, Sir Lawrence Bragg, Mr. W. H. S. Chance, Sir Charles Darwin, Dr. E. V. Evans, Mr. B. Mouat Jones, Mr. S. C. Laws, Dr. H. Lowery, Mr. H. S. Magnay, Sir George Nelson, Mr. J. F. Rees, Dr. R. V. Southwell, Mr. H. Fitzherbert Wright, with Mr. Maxwell-Hyslop, Board of Education, as secretary. Officers of the Board of Education will attend meetings of the committee as assessors.

The terms of reference of the Committee are: "Having regard to the requirements of industry, to consider the needs of higher technological education in England and Wales and the respective contributions to be made thereto by universities and technical colleges, and to make recommendations, among other things, as to the means for maintaining appropriate collaboration between universities and technical colleges in this field."

Application of Research in Industry

IN his address "The Application of Research" to the Manchester Chamber of Commerce on March 31, Dr. Andrew McCance said that we should not think of research merely in terms of great laboratories equipped with intricate and expensive apparatus and staffed by scientific wizards aloof from mundane affairs. Valuable information can often be obtained with the simplest equipment, and scientific men are ordinary men whose judgment has been trained to exclude prejudice and to accept only those conclusions which are supported by facts. As example, he referred to investigations on temperature variations in blast furnaces, which have led to a great increase in regularity of output and a corresponding economy in coke consumption. The structure of a research association depends on the organization of the industry. With an industry such as the iron and steel industry, in which the main production comes from a number of large units, each unit can usually make a material contribution to the common cause by undertaking in its own research department a share of the investigations required into a specific problem. Recently, however, this industry has decided to form a new research association, and in future finance for research within the industry in Great Britain will be obtained by a voluntary levy on the ingot production of all producers in the federation. All the work is controlled by a number of committees, dealing with such subjects as blast furnaces, rolling mills, alloy steels, corrosion, etc., and Dr. McCance referred in particular to the work of the Hair Line Crack Committee dealing with the minute cracks which occur in high tensile alloy steel and their prevention, as illustrating the potentialities of co-operative research. This investigation was founded on an effective scheme of co-operation between industrial and university research laboratories.

Research, Dr. McCance emphasized, begins with an attitude of mind, and it is essential first to create the correct attitude of mind in staff and throughout the organization. The research department then becomes an integral part of the production depart-

ment, planning ahead continually for the creation of new products, new processes and new economies. It is during the initial stage of employing a nucleus of scientifically trained men to create standards for raw materials and products and to investigate faults in manufacture and processes that sympathetic understanding and guidance are most required if antagonism and friction are to be avoided. When the department becomes an accepted part of the organization, additional staff is required to take over the routine work, and the original staff can begin to tackle the more fundamental problems of research-controlled development. Technical control of a business requires the employment of men who have received a technical training. No business can be made more scientific from outside, and Dr. McCance does not believe that a scientific training makes men less practical in their outlook. It is the waste of latent abilities through lack of opportunity or training that should give us more concern, and industry must co-operate in the development and utilization of training facilities if the future supply of competent executives and research workers is to be assured and the enterprise of British industry maintained.

Editorship of *British Birds*

THE place of the late H. F. Witherby, who so successfully conducted *British Birds* through thirty-six volumes, has been taken by Bernard W. Tucker, in accordance, it is understood, with Mr. Witherby's wishes. With Mr. Tucker will be associated in the editing of the journal, Dr. Norman F. Ticehurst and Major A. W. Boyd. *British Birds* has been assiduous in publishing about birds in Britain items of information many of which would otherwise have been lost to record, but it has played a more important part in encouraging scientific observation of bird-life and in suggesting problems and, by example, showing how problems may be tackled. In January 1917, *British Birds* incorporated *The Zoologist*, and thus disappeared after a long and useful history the only magazine which published notes on any aspect of British natural history from any part of Great Britain. The *Scottish Naturalist* performed a similar duty for the northern part of the kingdom, but it is a war casualty. The result is that there is now no magazine available for recording the minor observations of British naturalists on subjects other than birds, so that the cumulative value of the work of that great band of amateur observers, for which Great Britain has long been noted, is being lost. Is it too much to hope that when the War is over a *British Naturalist* will arise, wherein the ordinary student of Nature will be able to put on record field notes of casual interest and articles of connected observations?

Stereoscopic Photographs: 'Polaroid Vectographs'

INFORMATION recently released about the 'Polaroid Vectograph', a system of stereoscopic photography developed by the Polaroid Corporation, reveals that the method is playing an important part in war-time aerial photography. A short account of the underlying principles was given by E. H. Land in 1940 (*J. Opt. Soc. Amer.*, 30, 230; 1940). As in all stereoscopic systems, two photographs of a scene taken from different positions have to be presented to the observer so that the picture taken from the right is seen by the right eye, while that from the left is seen by the left eye. In the 'Vectograph' two very thin polarizing surfaces are located immediately above

an aluminized surface and are oriented so that the vibration directions of the two layers are crossed relative to one another. The light and shade of the 'left' image is controlled by the number of sub-microscopic crystals in one of the layers, and that of the 'right' image by the crystal distribution in the other layer. The 'left' image is seen by the left eye through a 'Polaroid' filter placed in front of the eye to act as analyser, the vibration direction of the analyser being crossed with respect to that of the 'left' image. The white areas of the image are thus represented by regions where the polaroid crystals are absent, and the blacks by areas of maximum concentration; further, since the left-eye analyser is parallel relative to the vibration direction of the 'right' image, the presence or absence of crystals in the latter have no effect on the appearance of the 'left' image. A similar viewing arrangement is used to enable the right eye to see the 'right' image.

The result is startlingly effective. The simplicity of the viewing equipment and the approximate superposition of the two images make fusion a matter of no difficulty whatever. When the original photographs are taken from an aircraft, the distance apart at which they are taken can be made large to give the effect of an exaggerated interocular distance. This leads to a greatly enhanced stereoscopic effect which can obviously have very important applications.

Chemical Laboratory Planning

THE design of modern industrial chemical laboratories has been dealt with recently by E. D. Mills (*J. Roy. Inst. Brit. Architects*, 51, No. 2, 27; Dec. 1943). The article, although short, contains some useful details and illustrations, with a short bibliography, and should be useful to those responsible for the erection and equipment of chemical laboratories. Further information about such matters as ventilation (which is quite different from that for normal buildings) would have made it more informative and practical. Many architects have very little idea of what is required, and actual figures are not easy to find.

Ancient Astronomy

A SERIES of articles entitled "Man and His Expanding Universe" is appearing in *Sky and Telescope*, the first of which, in the December issue, deals with Egyptian astronomy. As the life of the Egyptians depended on the overflowing of the Nile, the beginning of which occurred near the time of the summer solstice, the priest-astronomers held a very high position because they knew that the solstice took place about the time of the helical risings of certain stars. Owing to the precession of the equinoxes, the same star could not be used indefinitely, and it is possible to correlate the times of the buildings of some of their temples with our modern calendar, by calculating the times of the helical risings of some of the principal stars. The solar temple of Amen-Ra at Karnak was so oriented that at the summer solstice the setting sun was able to shine through the entire length of the temple and illuminate a golden image in the sanctuary, and the worshippers saw, not the image itself, but "the presence of the god Ra himself in the sanctuary".

The subject is continued in an article in the January issue of *Sky and Telescope* which deals with Chinese and Babylonian astronomy, in so far as a knowledge of the subject was applied to the orienta-

tion of temples. Reference is also made to Solomon's Temple, which was so oriented that the rays of the rising sun at the spring and autumn equinoxes penetrated to the Holy of Holies and were reflected by the jewels of the high priest. The basilica of St. Peter's, Rome, is placed due east and west, so that the rays of the rising sun at the vernal equinox can illuminate the high altar at the end of the nave. These articles present many interesting features and explain the orientation of public buildings thousands of years ago when astronomical knowledge was often deliberately concealed from the people, thus enhancing the prestige of the priest-astronomers.

Poliomyelitis in Chile

ACCORDING to a recent official report, only 99 cases of poliomyelitis were observed in Chile during the period 1937-41. 84 of the cases occurred in children less than two years of age, and only one in the age group 5-10 years. No case was observed in persons above ten years of age. Of the 99 cases, 98 showed motor weakness of the lower extremities, and in 11 the paralysis involved the upper extremities also; in one third of the cases the paralysis was bilateral.

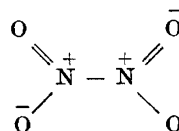
Institute of Physics: Australian Branch

PROF. A. D. ROSS, professor of physics in the University of Western Australia, has been elected president of the Australian Branch of the Institute of Physics. The previous presidents have been Prof. T. H. Laby of Melbourne and Prof. Kerr Grant of Adelaide. Dr. Ross has been local honorary secretary of the Institute in Australia for some twenty years, and he was the first to suggest the formation of a branch of the Institute in Australia. The Branch now includes more than 120 fellows and associates, apart from subscribers and students, and active divisions meet regularly during the year in Melbourne, Perth and Sydney.

Pharmaceutical Scholarships for Chinese Students

THE Pharmaceutical Society of Great Britain announces that five pharmaceutical manufacturers have each agreed to give scholarships to enable pharmaceutical graduates from China to take a two years course at the University of London. They would then return to China to help to train the 50,000 pharmacists required for General Chiang Kai-shek's ten-year plan for public health services. The donors of the scholarships are Messrs. Allen and Hanburys, Ltd., London; Messrs. Boots Pure Drug Co., Ltd., Nottingham; Messrs. Evans, Sons, Lescher and Webb, Ltd., Speke, Liverpool; The Wellcome Foundation, Ltd., London; and Messrs. May and Baker, Ltd., Dagenham. The suggestion for such scholarships came from Mr. A. H. Bentley, a pharmacist who escaped from the Japanese in Hong Kong. It is expected that the cost of each scholarship will be £1,400.

ERRATUM. In the communication by H. C. Longuet-Higgins in *NATURE* of April 1, p. 408, formula (iii) should read



The term "nitrogen tetroxide" should have been used throughout, instead of "nitrogen peroxide".