slightly smaller than the first, two smaller dishes, embossed with figures, several ornamented bowls, a pair of standing cups, a large fluted bowl with a pentacle as ornament at its centre, a number of detached handles, spoons, small cups and ladles, and a convex ornamented cover with the figure of a child as handle. The large circular dish is a remarkable piece on æsthetic grounds, apart from its size and weight. It is a characteristic example of Romano-British style of the later period of the Roman occupation, crowded with exuberant figures executed with great technical skill (see *Illus. London News*, June 29). There are many points of interest connected with this find which no doubt will give rise to much discussion in the future. It is possible to mention here only one—that of the dating. It has been suggested that the hoard may have been buried about the end of the third century of our era, that is, about A.D. 300, but a later date by some fifty years seems possible. Apparently this find belongs to that class which consists of household goods of villas buried when in danger from raiders. But according to the evidence of coins from such hoards, this practice did not begin until near the middle of the century and came to an end when in A.D. 367 Romano-British villa life in East Anglia suffered its final blow at the hands of barbarian sea-raiders.

Rayon Technology at Manchester

In accordance with their declared policy of providing financial assistance for the development of technical education in subjects of importance to the British rayon industry, Messrs. Courtaulds, Ltd., last week announced a gift of £60,000 to the Manchester College of Technology, which is also the Faculty of Technology in the University of Manchester. The money will for the most part be used for completely re-equipping the two Departments of Textile Industries and Textile Chemistry with up-to-date machinery and apparatus for training and research in rayon technology. The gift is particularly opportune because building is about to be resumed on the considerable extensions to the College which were started before the War and in which space had already been earmarked for rayon development, especially in reference to research. These plans can now be brought to fruition much more completely and more quickly than would otherwise have been possible.

The past decade has witnessed a notable increase in the number and variety of man-made fibres available to the textile industries. Of equally great importance, however, are the great strides that have been made in the study of their behaviour and properties, and in the growing appreciation of their independent significance in the textile economy as a whole. This has led, on one hand to the opening up of new fields of application, and on the other to a complete re-consideration of the orthodox sequence of industrial operations by which these materials in their different forms are commonly spun, woven, dyed and finished. The fundamental principles of fibre treatment are for the most part applicable to all textile materials, whatever their origin; but in the application of these principles, so far as the rayons are concerned, there are now in prospect more radical departures from orthodox practice than have been made hitherto. As a result of Messrs. Courtauld's gift, the Manchester College of Technology will be able not only to demonstrate the latest types of machinery and process but also play a much larger part, by experiment and research, in contributing to their further development.

Education in the Royal Air Force

The Air Council has now approved the formation of an Education Branch of the Royal Air Force in place of the civilian Educational Service that has existed hitherto. Education officers will now become part of the Royal Air Force itself, instead of being members of a civilian auxiliary service. The R.A.F. Education Branch, which will consist of commissioned officers only, will be constituted on the same broad lines as other branches of the Royal Air Force. The Branch will be organised on a predominantly short-service basis, provision being made for a percentage of short-service officers to be granted permanent commissions. Vacancies in the permanent cadre will normally be filled from the ranks of short-service officers, but officers with qualifications of outstanding value to the R.A.F. may exceptionally be appointed direct to permanent commissions. The intention is that officers should be appointed to short-service commissions, for a period of five years on the active list followed by four years on the reserve, and that they will enter at an average age of twenty-five in the rank of flying officer, normally after having had some civil teaching experience.

Service in the Education Branch of the Royal Air Force will be recognized by the Ministry of Education for determining the correct incremental position on the Burnham scales of salary of teachers who afterwards enter or return to civilian teaching employment. Further, the period of the short-service engagement of officers of the Education Branch who have been in contributory service under the Teachers (Superannuation) Acts will reckon as contributory service towards any ultimate award of pension under those Acts. It is hoped that it will be possible to make similar provision for short-service officers who were not in contributory service before entering the Branch. Candidates for appointment to the Branch must be in possession of a full degree of a university or an equivalent qualification obtained by examination, and the possession of first- or second-class honours will normally be a requirement for appointment to a permanent commission. A detailed announcement will be made as soon as possible with regard to the conditions of entry to and service in the new Branch, together with information regarding the conditions of assimilation of existing members of the R.A.F. Educational Service.

International Academy of the History of Science

The activities of the International Academy of the History of Science were suspended during the War. Prof. Aldo Mieli, the permanent secretary, is not at present able to leave Buenos Aires, and it has not yet been possible to resume publication of *Archeion*, the journal of the Academy. It has been decided, however, to hold a congress at Lausanne in the summer of 1947. All interested in the subject will be welcome, and the following provisional measures have been taken: J. A. Vollgraff (Roodbortsstraat 17, Leyden, Holland) is acting as secretary-treasurer, and Prof. P. Brunet (Hotel Nêvers, 12 Rue Colbert, Paris 21ème) as archivist and librarian. Prof. Arnold Reymond, of Lausanne, was elected president at the last meeting and will preside at the next. A corrected list of the surviving members of the Academy is being compiled. Each individual member and each national group is urgently requested to send the necessary information either to Prof. Brunet or to M. Vollgraff. Suggestions for the replacement of

both executive and corresponding members who have died since 1938 will be welcomed. Prof. Brunet further wishes to receive from members copies of books and brochures published by them since 1939, together with a note both of their own activities and that of their national group during the intervening period. Obituary notices of those who have died, together with photographs, are also desired.

Mineral Resources and Exploration

In his presidential address delivered on May 16 before the Institution of Mining and Metallurgy, Mr. G. F. Laycock reviewed the general position as regards the probable world resources of some of the more important metals, the prospects of finding further supplies and the methods employed in the search for new ore-bodies. For many years past few discoveries of important deposits have been made, apart from gold and iron. In Canada, for example, 84 per cent of the 1942 production was obtained from mineral areas discovered before 1920, and only 5 per cent from those discovered since 1930. Except in the U.S.S.R., the position is probably much worse in most other countries. Obviously, to a very large extent we are to-day living on our mineral capital. While it is clear that the era of surface prospecting has entered the phase of diminishing returns, there is every probability that many valuable ore-deposits, which do not outcrop or even closely approach the surface, still remain to be discovered. Mr. Laycock emphasizes the following suggestions: (1) Intensive research should be directed towards the development of new or improved methods of geophysical exploration with a view to the elimination of the uncertainties and weaknesses of existing methods. (2) Operating companies must be officially encouraged, for example, by tax reliefs, to carry out intensive prospecting for new sources of ore in and around existing workings by means of geological, geophysical and diamond-drilling methods. (3) Exploration companies should be formed to investigate potentially promising virgin areas where old-fashioned prospecting methods are useless by themselves; prospecting rights must be granted over wide areas, and the very considerable expenses of such large-scale operations should be allowable for taxation purposes as deductions against any future profits. Mr. Laycock predicts that with such stimulation and governmental assistance the present unsatisfactory position is likely to be greatly improved by the discovery of important concealed deposits.

Chemical Engineering as a Profession

There is a very marked expansion at the present moment of those industries which are mainly concerned with some chemical process for their development. There is so great a demand for chemical engineers that the Institution of Chemical Engineers, in conjunction with the Institute of Petroleum, the Association of British Chemical Manufacturers and the British Chemical Plant Manufacturers Association, addressed a memorandum to the Government, directing attention to this remarkable development, and at the same time emphasized the very great shortage of trained chemical engineers in Great Britain compared, for example, with that existing in the United States. The number of students each year studying for a degree in chemical engineering is at present about forty in Britain, compared with three thousand in the United States. To meet the situation, the Government is proposing to establish courses in chemical engineering for those who already have a chemistry, physics or engineering degree, as a short-term policy in order to train chemical engineers to meet this demand, which at the present moment is more active on the plant-manufacturing side, owing to the fact that many proposed improvements and developments have had to be postponed until after the War. While, therefore, at the moment there is a special demand for men to design and erect this equipment, there are also big requirements for chemical engineers in the industries using plant. The fourth year of the degree course recommended by the Institution of Chemical Engineers roughly corresponds to the post-graduate courses now being organised. The exact training which the students receive will depend, of course, to some extent on their previous knowledge, and will be designed to enable them to approach the chemical engineering course proper with sufficient background in the general principles of chemistry and mechanical and electrical engineering.

Recent Earthquakes

During May 1946 several strong earthquakes occurred in various parts of the earth. Many of these had their epicentres under the sea and thus fortunately did little material damage. These include the shocks of May 3 south-east of New Guinea; May 8, west of Sumatra; May 9, Gulf of California; and May 15, off coast of Southern Mexico (United States Coast and Geodetic Survey). The shock of May 21 did damage on Martinique, West Indies. Its epicentre has been determined on the basis of instrumental reports from eleven observatories by the United States Coast and Geodetic Survey as being lat. 14·2° N., long. 60·8° W., and origin time 09 h. 16·6 m. G.M.T. Two strong shocks at 02·30 hr. and 04·40 hr. on May 30 with epicentre in Canton Valais, Switzerland, did some damage to a church and houses at Bex. Houses were badly shaken at Berne, but no damage was done. In addition to the shocks of May 3 and 8, Mr. E. W. Pollard in the Isle of Wight recorded a smaller distant shock on May 11.

Early on Saturday, June 1, a severe earthquake occurred in the region of Mush, eastern Anatolia, Turkey, about 480 miles south-east of Ankara. Severe damage is reported to include 215 houses destroyed; 590 people are said to have been killed and about 100 injured.

Films in Microbiology and Protistology

Films made under the direction of Dr. Comandon by the Département de Cinémicrographie, Institut Pasteur, Garches, S. et O., will be brought to Great Britain shortly by M. Pierre de Fonbrune. They include those reviewed in the *Lancet* (Jan. 11, 1946, p. 111) and in the *British Medical Bulletin* (4, No. 1, 72; 1946); also films on *Amœba verrucosa* and *Lankesterella* and on mitosis. They are silent films on 35 mm. stock with captions in French. A selection of these films will be shown in London by the British Council on July 15, at 5 p.m. A limited number of seats is available and will be allotted in rotation on application to the British Council, 3 Hanover Street, London, W.1.