

quicken in the latter part of the quinquennium. The report expresses confidence that the Universities will continue to need capital grants from the Trust, and so far as the Scottish universities are concerned the Trust should be able to provide some timely assistance in what is likely to be a period of stringency. There was a decrease in the number of fellowships and senior scholarships awarded, but this was largely counterbalanced by an increase from £12,540 to £18,597 in general grants in aid of research, and by an increase of £2,000 in the block travel grant allocated to universities. Assistance to students remained at about the same level as in the previous year, fee payments to students decreasing to £7,662 while merit awards increased slightly and awards made under the exchange scheme for selected medical students totalled £372. Repayments of fees in 1963-64 amounted to £4,324, or more than double the annual sum received in the past 10 years. Besides summarizing the eleventh quinquennial distribution 1962-67, the report includes brief accounts of the work of fellows, senior scholars and scholars, and details of the research grants made during the year.

Teaching of Mechanics

THE Mathematical Association has now published the report which was adopted by the Teaching Committee of the Association on March 31, 1964, prepared by a sub-committee appointed in 1958 (*A Second Report on the Teaching of Mechanics in Schools*. Pp. 130. London: G. Bell and Sons, Ltd., 1965). The report is a revision of that published in 1929 under the title *The Teaching of Mechanics*. It is intended to be a guide to principles and not a text-book, and is addressed to teachers, not to pupils. A very strong plea is made for the retention of mechanics in the mathematics course. Mechanics, lying on the border-line between the experimental and the mathematical subjects, is sometimes taught as a part of the science curriculum and sometimes as a part of mathematics. Herein lies the difficulty, because the emphasis in recent years has been to give too much weight to the mathematical side in so-called 'applied mathematics'. Scientific approaches have changed, and the physical world, with its up-to-date problems, is now too well known to the majority of pupils to be ignored. Therefore, too much abstraction may kill the interest in mechanics. Emphasis on simplicity and clarity, acknowledgment of the limitations of experimental determination, and the cultivation in the pupils of the ability to express the essential features of the mechanical problem in mathematical terms, should be the aims of the course. The main body of the report consists of five chapters, dealing with informal mechanics before the course leading to the Ordinary-level examination for the General Certificate of Education; mechanics at the fifth-form level; sixth-form mechanics up to the Advanced-level standard in applied mathematics; further work at the sixth-form level and pre-university level; and finally, a historical sketch of problems and methods in mechanics, written mainly by Dr. J. R. Ravetz. Three appendixes contain accounts of D'Alembert's principle; topics for further discussion, that is, topics on which the members of the sub-committee held widely different opinions; and a list of experiments and everyday applications of mechanics.

The National Oceanographic Council

THE most recent annual report of the National Oceanographic Council covers the work of the National Institute of Oceanography for the year April 1, 1963-March 31, 1964—a period during which the new R.R.S. *Discovery* made her first scientific cruises (Pp. 66+7 plates. Cambridge: At the University Press, 1965. 6s. net). After a short trip in the North Atlantic, the *Discovery* sailed on June 1, 1963, for the first of three cruises forming a contribution to the International Indian Ocean Expedition, which

occupied the ship until September 1964. In the first of these, she was operating off the south-east coast of Arabia, during the south-west monsoon when intensive upwelling occurs in this area. Measurements of currents, nutrient salts and biological productivity were made. The second cruise, in which scientists from the Geodesy and Geophysics Department, University of Cambridge, took part, was spent mainly on geological and geophysical work in the north-west Indian Ocean. During the third cruise a survey of the equatorial current system was carried out by working north-south sections across the equator. Although the work for the International Indian Ocean Expedition was probably the most spectacular feature of the year's activities, research was actively pursued in a number of other fields. A new 'clover-leaf' buoy was tested during the North Atlantic cruise, and was found to record the directional properties of waves successfully. Other topics of research included long waves and surges, sand waves and turbidity currents. Biological activities included research on whales and whaling and work on collection of phytoplankton and zooplankton from the Indian Ocean and other cruises. In the introduction to the report, it is emphasized that the National Institute of Oceanography has consistently adopted a liberal scientific approach to its task and this policy has led to valuable practical results. There are increasing demands for the Institute's services, and in order to meet these, as well as to continue basic research, the facilities at its disposal need to be strengthened appreciably in the future.

Indian Science Abstracts

THE first issue of *Indian Science Abstracts* was published in January 1965 by the Indian National Scientific Documentation Centre to ensure effective bibliographic coverage of current Indian scientific literature (1, No. 1; January 1965. Pp. vi+1-126. Published monthly. Annual subscription: Rs. 50.00; 200s.; 30 dollars. Delhi: Indian National Scientific Documentation Centre, 1965). This first issue includes 963 abstracts, covering 666 articles in 99 Indian periodicals received during October 1964, 21 articles by Indian scientists published overseas, 221 patents, 28 standards, 4 annual reports, 1 thesis, 18 conference papers and 4 miscellaneous publications. The abstracts are arranged according to the universal decimal classification and there are author and subject indexes.

Welsh Scenery

A DELIGHTFUL collection of photographs has been prepared by the National Museum of Wales to explain the nature and origin of scenery in Wales (*Welsh Scenery, Illustrated and Explained*. Pp. 34. Cardiff: National Museum of Wales, 1964. 2s. 6d.). Most of the photographs illustrate commonplace features rather than famous beauty spots and can be matched in character if not in detail in many parts of Wales. They include inclined strata rising to the surface at Clydach, near Abergavenny, alabaster in Triassic marls in a cliff near Penarth, joints and stratification in a 'slab' quarry at Borwyn near Llangollen, folded strata near Southerndown, relics of ancient volcanoes at Snowdon, a 'glaciated pavement' at Llanberis, and stalactites and stalagmites at Penderyn, near Aberdare.

The Milton Plan

THE Institute of Personnel Management has issued an account by A. Fox of an exercise in manpower planning and the transfer of production, put into effect when the British Aluminium Co., Ltd., decided to close down its rolling-mill plant at Milton, near Stoke-on-Trent, and transfer production to Rheola in the Vale of Neath (Pp. 66. London: Institute of Personnel Management, 1965. 7s. 6d.). The plan envisaged a lengthy period of building