

first 'systematic' investigations of the Atlantic Ocean were made during the famous great expedition of 1925-27 which crossed and re-crossed the southern part of that ocean, and during the preliminary expeditions of 1929-38 over its northern reaches. These expeditions followed plans laid at the time for the entire oceanic surface of the Earth, and from them resulted a sixteen-volume set of reports which will ensure that the name *Meteor* will never be forgotten in the circles of marine research. The new vessel, *Meteor II*, of 2,700 tons burthen, will be twice the size of her distinguished predecessor, and whereas the first of the name charged with both surveying duties and scientific research could carry only nine scientists at a time, the new ship, being purely for research, can embark twenty-two. She is under construction at the Wesser-AG, Werk Seebeck, Bremerhaven, and the launching is scheduled for the latter part of August this year. *Meteor II* will be managed from the German Hydrographic Institute which embraces much that was left from the pre-war Deutsche Seewarte, the president of which from 1934 until 1945 was Admiral Spiess. It was Spiess who took over the leadership of the great 1925-27 expedition after the premature death of Prof. Alfred Merz. As much continuity as possible having been preserved, it is confidently hoped that *Meteor II* will add to the laurels gained by her famous forerunner.

Photographs from Satellites

FOR some time now the United States *Tiros* meteorological satellite programme has been producing pictures of the Earth's cloud distribution at the rate of more than 500 pictures per day, and more than 145,000 pictures had been received by the end of 1962. There is a wealth of information available, covering patterns of weather on a global scale, and many research notes and articles have already been published. The pictures present numerous tantalizing questions of interpretation and may have great potential use in the fields of geography and oceanography as well as in meteorology. A series of photographs is now being published each month in the *Monthly Weather Review* of the United States Weather Bureau, as from January 1963. The first of the series presented a problem of cloud picture interpretation, while the second suggested that satellite pictures might be used for snow survey in remote regions. The director of the National Weather Satellite Center of the United States Weather Bureau, Prof. S. Fred Singer, would welcome inquiries from all interested scientists, particularly in universities, who would like to work on the interpretation of such pictures.

British Rainfall, 1958

THE latest number of *British Rainfall*, issued by the Meteorological Office, was rather delayed in publication, and contains but a few minor internal changes of layout (M.O. 721. Pp. iv + 98 + vi + 131. 21 + 4 plates. London: H.M.S.O., 1963. 37s. 6d.). The projected reorganization of data from a county to a drainage area basis, which is desirable on so many grounds, will not be effected until the volume for 1961. The most important change in the present volume is the replacement of the 1881-1915 long-term annual averages by those for the more recent 1916-50 period. Some indication should have been given, however, that these new averages may at times be 'computed' rather than 'observed' values. Thus, the average annual value of 31.6 in. given for the University of Keele is for a station that had not even begun to exist in 1950. The other introduction worthy of note is the presentation for the first time in *British Rainfall* of a series of observations of potential evapo-transpiration at a number of different sites over Britain. A brief article by Mr. F. H. W. Green, of the Nature Conservancy, who has been primarily responsible for developing this work, introduces these data. It is to be hoped not only that *British Rainfall* continues to publish these values year by year, but also

that many more observatories, water boards and Meteorological Office stations will begin to measure potential evapo-transpiration.

The Institute of Animal Physiology, Babraham, Cambridge

THE report for 1960-61 of the Institute of Animal Physiology, Babraham, Cambridge, is not a 'dry' departmental report (Pp. 74 + 8 plates. Babraham: Cambridge: Institute of Animal Physiology. H.M.S.O., 1962. 6s. 6d.). It gives a brief account of the Institute since the purchase of the estate for the Agricultural Research Council in 1948. A précis is given of work done on each of nearly forty research projects, all concerned with fundamental work on the physiology of domestic animals. The history of veterinary research in Britain shows curious irregularities. The 'Pasteur Theory' had unfortunate results in that germs acquired undue prominence and were seriously misunderstood and misrepresented for generations. Until about the end of the first quarter of the century a large proportion of the little Government finance provided was devoted to the idea that a germ had to be found for each disease, the solution of the problem then automatically following. Physiology was utterly neglected. Even as an applied science, veterinary hygiene consisted merely of adaptations from other spheres. Factors that led to robust health were given little attention either in the breeding of animals or in their maintenance. The place of specific factors in relation to disease could not be given consideration because little was known. When in more recent years beginnings were made on a study of morbidity and mortality in farm animals the staggeringly high figures quoted constantly after studies of wide aspects of farm results provided a welcome demonstration of the need for reform. In the development of animal husbandry there was neglect of health. In the construction of buildings, cost of building and of manpower for care of the animals received more attention than study of what were the requirements for health of the occupants. 'Babraham' is a result of the changed outlook about the type of research that is worth attention. Almost for the first time the basic sciences are given full play in the planning and execution of the research work on the subjects dealt with and an immense amount of progress is being made. A list of some four hundred papers that have been produced from the Institute is contained in the report.

The Field Studies Council

THE annual report of the Field Studies Council for 1961-62 is a record of continued expansion. Once again, attendances, equivalent to 9,588 student weeks, were greater than in any previous year. There were, however, so many applicants who had to be turned away that in 1961 a working party was set up to explore the possibility of finding locations for new centres in suitable areas of England and Wales. After setbacks elsewhere, negotiations have now reached an advanced stage for the acquisition of a property at Oriulton, Pembrokeshire, and it is expected that this centre, the seventh, will be open for a moderate number of students in the early summer. The property consists of a large Georgian house standing in 54 acres of land, about three miles south-west of Pembroke. The surrounding countryside is varied and attractive, and there is easy access to the coast. Among the many improvements in accommodation affecting the centres, the most outstanding was the restoration of the dilapidated High Stables, at Malham Tarn, made possible through grants amounting to £7,000 made by Mrs. J. B. Coulthurst and the Worshipful Company of Goldsmiths. Of improvements in working facilities, the most notable were the acquisition of a rock-cutting machine and pH meter, financed by a donation of £500 made to Dale Fort by the Esso Petroleum Co.