

each in turn divided into basins, and the Pacific Ocean divided into a wide central trough and narrow western and (south) eastern troughs. A second map divides the surface waters on the same basis and gives a name to the sea overlying each basin. This is of more doubtful value, and some of the names are unlikely to gain general acceptance.

#### Bathymetric Charts of the Oceans

At the Seventh International Oceanographical Congress held in Berlin in 1899 it was decided to draw up a general bathymetric chart of the oceans. Through the generosity of H.S.H. Prince Albert I of Monaco, it was possible to produce the first edition in 1904 and a second edition which was begun in 1912 but not completed until 1930. After the death of the Prince of Monaco, it was decided that a new edition should be prepared by the International Hydrographic Bureau at Monte Carlo. The first sheet of this third edition, Sheet A.1 (North Atlantic from Equator to lat. 47° N.), is now on sale at a price of 35 French francs. Since the publication of the last edition, echo-sounding has come into general practice, and in the construction of Sheet A.1 some 70,000 soundings were examined. As a result, the many inequalities of the bottom of the sea are now being disclosed in areas previously thought to be more or less smooth. The sheet (1 ft. 11 in. by 3 ft. 3 in., chart dimensions) is coloured to show the depth contours of the ocean and the principal mountain ranges of the continents.

#### Forty-Six Years of Phenology

MR. J. EDMUND CLARK'S important paper on "The History of British Phenology" (*Quart. J. Roy. Meteorol. Soc.*, 62, January 1936) comes at a time when the six hundred or so phenological observers organised in Britain by the Royal Meteorological Society are beginning their annual observations on the dates of flowering of plants, song of birds, appearance of migrants, butterflies, etc. In Great Britain organised phenology dates from Gilbert White's classic eighteenth century observations. The Royal Meteorological Society's phenological reports were begun in 1875 by the Rev. Thomas A. Preston, of Marlborough School, who made about 20,000,000 calculations. From 1889 until 1910 Edward Mawley organised them with 22-23 observing stations watching 50 plants, 14 birds, 6 insects and frog spawn. From 1911 until 1913, Messrs. J. E. Clark and R. H. Hooker were responsible, in 1914 Mr. Clark, and from 1915 until 1920 (during which year 5,000 reports were tabulated) by Messrs. J. E. Clark and H. B. Adames. For the last five years, Messrs. J. E. Clark, I. D. Margary and C. J. P. Cave have been responsible for them, and in 1930 as many as 18,000 records were tabulated. Critics of the exhaustive series of statistics and maps published annually in the Phenological Report will probably, after the half century of work is reached, appreciate their value in that the deductions are already proving useful for farm and garden crops.

#### Central Agricultural and Scientific Bibliography

MODERN mass-production of scientific and technical literature led first to the growth of comprehensive abstract services, which, as literary proliferation increased, have tended to bury the references to articles on specific subjects in the mass of abstracts on all subjects. Thus has developed the present-day demand for specialised bibliographies—lists of references classified according to the titles of the articles noticed, and informing about the quantity rather than the quality of scientific literature. A comprehensive bibliography on all branches of agriculture and allied subjects is now being organised at the Science Library, South Kensington, London, S.W.7. As the Library takes most of the four thousand or so agricultural journals published throughout the world, it offers unusually good facilities for the preparation of such a bibliography. Subscribers, paying 10s. per annum as individuals, or £5 5s. as institutions, will have full access to the bibliography and special facilities for reference to books in the Library. Translations and abstracts will also be made. The service commenced on March 1.

#### The Applications of Fluorescence

IN a paper read to the Illuminating Engineering Society on January 14, Mr. F. E. Lamplough pointed out some useful applications of fluorescence. The work is carried out both by visual and photographic methods, and as the fluorescence colours as a rule bear little relation to the natural colours of substances, it often happens that colourless materials and those of identical natural colours can readily be distinguished by their fluorescence. This method is used by detectives, experts and collectors. It has been used for deciphering ancient manuscripts from which the writing had been erased, for detecting alterations in pictures, for distinguishing between old and new marble, cut ivory or bone. Repairs to pottery, glass and woodwork are at once evident. It is of equal value in the examination of foodstuffs, textiles and paper. It has been used to yield pictures of fossils otherwise almost invisible. Some use of it has been made in display and advertising as well as in stage and film work. Extensive use was made of fluorescence in the film production of H. G. Wells's "Invisible Man". If the skin of the actor is made non-fluorescent and his suit strongly fluorescent, then in ultra-violet light the suit appears to walk about in the most amazing manner without visible means of support. The use of fluorescence to vary the colour of a source of light was demonstrated by means of a series of discharge tubes, in which the light given by the discharge was changed by coating the interior of the tube with different fluorescent powders.

#### Biochemical Research in India

THE annual report of the Indian Society of Biological Chemists gives as usual a comprehensive summary of the work carried out during the past year (Society of Biological Chemists, India. Biochemical and Allied Research in India in 1934.

Pp. ii+107. Bangalore : Indian Institute of Science). The subject matter is divided into nine sections ranging from enzymes and plant and animal nutrition to chemistry in relation to pharmacology. Reference is made to more than three hundred papers, and there is a name index. The publication indicates the variety of the researches carried out by chemists in India, and provides a useful means of obtaining summaries of work published in detail in many different journals, including NATURE.

### Third World Power Conference

THE Third World Power Conference and the Second Congress of the International Commission on Large Dams of the World Power Conference are to be held in Washington concurrently on September 7-12. Arrangements are in course of completion for the preparation of a thoroughly authoritative collection of British papers. The British Committee on Large Dams has arranged for the preparation of several papers for presentation at the Second International Congress. The meetings will be both preceded and followed by 'study tours', an essential feature of which will be 'round-table discussions' which will be linked up with the places of technical interest visited. It has been felt that as the questions to be dealt with at the plenary meeting are largely economic and administrative in character, a due balance will be preserved by emphasising the technical character of the study tours and of the round-table discussions between specialists which will be associated with them. There will also be a post-Conference trans-Continental tour of about three weeks' duration, the cost of which will be remarkably low since—thanks to the generosity of the American hosts—a substantial subsidy will be devoted to reduce what would otherwise be the very considerable expenditure involved. Intending participants in the Conference or Congress are requested to apply as soon as possible for full particulars to the office of the British National Committee of the World Power Conference, 36 Kingsway, London, W.C.2.

### Announcements

PROF. A. C. SEWARD has been appointed a member of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

SIR ROBERT ROBERTSON, who has just retired from the post of Government chemist, and Mr. John Smith, formerly director of animal health in Northern Rhodesia, and since 1933 a member of the Colonial Advisory Council of Agriculture and Animal Health, have been appointed members of the Agricultural Research Council.

At the annual general meeting of the Microchemical Club held at the Imperial College of Science and Technology on March 14, the following officers were elected: *Hon. Secretary*, S. J. Folley; *Hon. Treasurer*, L. H. N. Cooper; *Hon. Librarian*, Isobel H. Hadfield. N. G. Heatley and C. H. Price were elected to the Committee.

UNDER the auspices of the Society of Glass Technology, the second International Congress on Glass will be held in London and Sheffield on July 2-11. Full particulars of arrangements will be issued later; but further information can be obtained from Prof. W. E. S. Turner, The Society of Glass Technology, Darnall Road, Sheffield, 9.

WE have received from the Safety in Mines Research Board a full Subject Index for the first eight volumes of its publications (1927-34) including the title page and table of contents of vol. 9 of that publication, comprising its Twelfth Annual Report together with a full list of papers Nos. 82-88, giving the results of its work in 1934. There is also a page containing instructions for binding, which advises users of the Index to re-number the publications of the Board.

THE Royal Scottish Geographical Society has recently issued an appeal for the proposed Dr. Marion Newbigin Memorial Fund. Dr. Newbigin, who died on July 10, 1934 (see NATURE, 134, 206; 1934), was editor of the *Scottish Geographical Magazine* from 1902 until her death. This, and her textbooks, of which there were more than a dozen, brought wide training and distinction in natural science to the service of geography. The memorial will probably take the form of an annual reward for a prize essay, a memorial medal or a memorial prize. Donations should be forwarded to Sir T. B. Whitson, Royal Geographical Society, Synod Hall, Castle Terrace, Edinburgh, 1.

ERRATUM. In the obituary notice of Prof. J. H. Ashworth which appeared in NATURE of February 22, p. 304, it is stated that he was brought up in Bolton. This is incorrect; he was brought up in Burnley.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:

A technical assistant in agricultural economics in the University of Leeds—The Registrar (March 30).

Civilian technical assistants (engineering and physical) in the Admiralty Technical Pool—The Secretary of the Admiralty (C.E. Branch), Whitehall, S.W.1 (April 3).

An investigator on the cold-working of metals in the Department of Metallurgy of the University of Sheffield—The Registrar (April 11).

A University demonstrator in geodesy in the University of Cambridge—Dr. F. C. Phillips, Department of Mineralogy and Petrology, The University, Cambridge (April 15).

An assistant director and secretary of the Max Museum, Douglas—The Director (April 18).

An abstractor of scientific and technical literature at the Shirley Institute, Didsbury, Manchester—The Director.

A professor of engineering in the University of Melbourne—The Universities Bureau of the British Empire, 88A Gower Street, W.C.1.