

of the Department is that of acting as an adviser to the State on chemical matters, of taking part in international studies on the mass-movement of the sea from place to place, and of examining samples submitted by other Government departments. In addition to the principal laboratory at Clement's Inn Passage, other laboratories under the control of Sir Robert Robertson are the Custom House laboratory, and laboratories at the Geological Survey, at the Army Supply Depot at Deptford, at Park Royal, and at five seaports. The public thinks of these laboratories as places where a great deal of 'testing' is carried out; chemists, however, know that in addition they house a vigorous research organisation, only part of the work of which can, in the public interest, be published in the scientific journals as notable contributions to the common stock of chemical knowledge.

Harrison's Chronometers at the Science Museum

THE Admiralty has kindly lent to the Science Museum, South Kensington, all four of the pioneer marine timekeepers made by John Harrison between 1729 and 1759. With these instruments Harrison was the first to show that it was possible to construct a portable timekeeper which would keep sufficiently accurate time at sea to be of use in determining a vessel's longitude, and thus solved the problem of 'finding the longitude' which had baffled men of science and inventors for more than two hundred years. Harrison's instruments were the first balance-wheel timekeepers to embody any kind of compensation for the effects of change of temperature. In all four of his instruments compensation is provided by varying the effective length of the balance-spring, the mechanical details varying in the different individuals. In the first three timekeepers, the effect of the ship's motion is also compensated by employing two balance-wheels connected together by an ingenious but delicate system equivalent to a frictionless gearing; in the fourth chronometer, however, this system is abandoned in favour of a single small balance-wheel the angular acceleration of which is large compared to the stray accelerations due to the ship's motion. The first three chronometers are large clocks each weighing more than fifty pounds, but the fourth is much smaller, being essentially a large watch about five inches in diameter. All four instruments have been cleaned, repaired and put into working order by Lieut.-Commander R. T. Gould, and they are now on exhibition in the Museum, in good condition.

National Park in Snowdonia

Six months ago public interest in Snowdonia as a national park was revived by the offer made by Mr. C. Williams-Ellis to the National Trust of 300 acres near Nant Gwynant with covenants to preserve the rest of Hafod Lwyfog farm in its present condition, provided others would co-operate in taking further steps for the preservation of this beautiful area. Since then the Caernarvonshire County Council has taken active steps towards the preparation of

a planning scheme covering the whole area. Now, through the generosity of an anonymous benefactor, a scheme has been formulated by the National Trust for the preservation of the Aberglaslyn Pass. The anonymous benefactor has provided the funds for the purchase from the Snowdon Mountain Railway, Ltd., of the east side of the pass, provided the Trust can secure the co-operation of the owners of the land on the west side. The owners of Plas Aberglaslyn on the west of the Pass and Mr. Clough Williams-Ellis as owner of a small area to the south have immediately agreed, and the National Trust is now confidently awaiting the assurances of one or two other contiguous owners before completing the purchase. It is further believed that another offer of land between Gwynant and Pont Aberglaslyn is likely to be made.

Medical Botany of the Eighteenth Century

MR. H. S. REDGROVE contributes an interesting article to the *Gardeners' Chronicle* of May 11 describing a very complete work on "Medical Botany, containing Systematic and General Descriptions, with Plates, of all the Medicinal Plants, indigenous and exotic, comprehended in the Catalogues of the *Materia Medica*, . . . accompanied by a Circumstantial Detail of their Medicinal Effects, and of the Diseases in which they have been most successfully Employed". This remarkable work was from the pen of Dr. William Woodville (1752-1805). It was published first in monthly parts, but later in three volumes and a supplement (1790-94). Woodville's life is described briefly in the article under review, and his peculiar qualifications for the work are emphasised. One cannot but feel regret, as Mr. Redgrove quotes passages from "Medical Botany", that such herbs as *Potentilla erecta* have passed from medicinal use, for their employment seems to have been determined by very exact knowledge. 210 drawings by Sowerby were included in the work, which was written in a thoroughly scientific spirit.

Common Names for Plant Diseases

DIFFICULTIES of expression by written word are great, even when words have exact literary meanings. The words of a new science like plant pathology have been coined by practical growers in different places and under varying conditions, so it is not a matter of wonder that much confusion has resulted. The second edition of the "List of Common Names of British Plant Diseases" (Cambridge: University Press. Pp. 95. 2s. 6d. net) represents a serious attempt to standardise nomenclature of disease symptoms and causal agents. It has been compiled by the Plant Pathology Committee of the British Mycological Society. The list is in two columns—first the common name and then the name of the parasite. Synonyms are given where necessary, but the volume is a well-regulated attempt to establish one name for each disease. Many synonyms are being discouraged, whilst in one or two cases fresh names have been introduced for the sake of clarity. The host plants are grouped conveniently into

vegetables, cereals, fruit, ornamental plants, etc., whilst the causal agents are listed in the order—Viruses, Bacteria, Myxomycetes, Phycomycetes, Ascomycetes, Basidiomycetes, Fungi Imperfecti, and Non-parasitic. Foreign names are also given where possible. The comprehensive orderliness of the list should commend it for universal adoption.

Acta Physicochimica U.R.S.S.

THE publication of the *Acta Physicochimica U.R.S.S.* commenced in September 1934, and volume I containing six parts has just been completed. In Russia as in other countries, the ramifications of chemistry, especially in its mathematical and physical aspects, are growing so complex and varied that it is found desirable to have as a medium for publication, in addition to the usual journals devoted to chemistry, a special one devoted to the more advanced aspects of physical and theoretical chemistry. We have noted the recent appearance of the *Journal of Chemical Physics* in the United States, the remarkably effective and somewhat sudden renaissance of the *Transactions of the Faraday Society* in Great Britain, and now the appearance of the *Acta Physicochimica* in Russia. The board of editors of the journal is certainly to be congratulated on the first six parts. It would appear that the referees appointed by the board function admirably in that country in selecting suitable—and presumably also in rejecting unsuitable—material. A number of internationally well-known names, including those particularly well known in England, Profs. Frenkel, Frumkin, Rabinovitch, Semenov and Talmud, are to be found on the board, and there is a list of some forty permanent contributors distributed over seven cities of the U.S.S.R. Although new journals furnish problems both in budgeting and in library accommodation, these difficulties will be overcome at least for this admirable example of a specialised scientific journal.

Insects of Samoa

THE British Museum (Natural History) has recently issued further instalments of the publication entitled "Insects of Samoa", a work which has been noticed from time to time in these columns. Part 6, Fasc. 8 of the complete work, by Mr. J. R. Malloch, of the U.S. Bureau of Biological Survey, deals with some further groups of Acalypterate flies, namely, the families Drosophilidæ, Ephydridæ, Sphaeroceridæ and Milichiidæ, and is illustrated by 16 text-figures. In Part 6, Fasc. 9, Mr. Malloch discusses certain families of Cyclorrhaphous flies, namely, Phoridae, Agromyzidæ, Micropezidæ, Tachinidæ and Sarcophagidæ (supplement). Dr. H. H. Knight, of the Iowa State College, deals with the hemipterous families Miridæ and Anthocoridæ (Part 2, Fasc. 5), which comprise 21 genera and 33 species. Part 3, Fasc. 4 is by Mr. W. H. T. Tams of the British Museum (Natural History), who contributes a lengthy section comprising all the Heterocera, excepting the Geometridæ and Microlepidoptera, which have already been reported upon. Mr. Tams's report more than trebles the number of Samoan moths represented in the British

Museum. It also contains important observations on nomenclature and upon the grouping of the sub-family divisions of Heterocera.

Field Museum of Chicago

THE economic situation in the United States is bearing heavily upon institutes such as museums which depend largely upon the goodwill and financial aid of the people. The annual report for 1934 of the Director of the Field Museum of Natural History shows this clearly. Income, from endowments, tax collections, admissions and membership, was in each case reduced, so that a total of 491,002 dollars stands against 636,318 for 1933. Visitors have fallen from more than three millions in 1933 to less than two millions in 1934, though the earlier year's numbers were abnormally increased by the opening of the "Century of Progress Exposition" in Chicago. In spite of difficulties, the Field Museum continues to prosecute research in various fields, though these are now limited to privately financed expeditions; it has added notable groups of animals to its public galleries; and it continues by means of lectures (attended by some 662,000 persons, mostly children) and by travelling natural history exhibits (to more than four hundred schools) to educate the youth of Chicago biologically.

Examinations in Milk Processing and Control

THE City and Guilds of London Institute has arranged to hold examinations in the future, commencing May next year, in milk processing and control, with certification of successful candidates. It is hoped that the provision of the examinations will encourage the formation of classes of instruction in these subjects in different parts of Great Britain, so that those engaged in the milk industry who receive such instruction should be in a position to render more efficient service. It is proposed that the examinations should be held at approved centres in Great Britain, Ireland and overseas. The syllabus of the examination for the certificate, which will be in two parts, intermediate and final, has been drawn up by a representative advisory committee, and may be obtained from the Superintendent, Department of Technology, City and Guilds of London Institute, 31 Brechin Place, South Kensington, London, S.W.7.

The Seismological Station of De Bilt

WE have received the valuable report on the earthquakes recorded at this well-known observatory during the year 1932. The instruments include horizontal and vertical component Galitzin seismographs and also Wiechert and Bosch seismographs. In addition to a catalogue of 437 earthquakes, the report contains an appendix on the earthquakes in North Brabant during November 20–28, 1932. The principal earthquake occurred on November 20 and was felt all over the Netherlands, in Belgium and west Germany, and even, it is said, in London. Its epicentre (in lat. 51° 40' N., long. 5° 35' E.), as well as the epicentres of three strong after-shocks, lay close to the boundaries of the central rift-valley.