

powerful instrument of research—one which made it possible to photograph spectra directly without the use of prisms or lenses and with a greatly increased dispersion and resolving power. In 1888 he published a photographic map of the normal solar spectrum, in 1893 a table of standard wave-lengths, and in 1895–97 a table of solar wave-lengths. For his discoveries and investigations Rowland received the Rumford, the Draper and the Matteucci Medals and was honoured in many ways by societies and universities. Besides being a great investigator, he was a great teacher, kindling in his students an enthusiasm approaching his own. His work was always distinguished for refinement and accuracy; and withal he possessed the true scientific temperament. "For myself," he said once, "I value in a scientific mind most of all that love of truth, that care in its pursuit and that humility of mind which makes the possibility of error always present, more than any other quality. This is the mind which has built up modern science to its present perfection, which has laid one stone upon the other with such care that it to-day offers to the world the most complete monument of human reason." Rowland died at his house in Baltimore on April 16, 1901. His body was cremated and his ashes buried beneath his famous ruling engine. His library was in 1903 given by his widow to the Johns Hopkins University.

#### Mathematics at Ibadan

THE chair of mathematics at University College, Ibadan, Nigeria, has now been filled by the election of Dr. F. V. Atkinson. Educated at St. Paul's School and at the Queen's College, Oxford (of which he was an open scholar during 1934–37), Dr. Atkinson was later a Senior Demy of Magdalen. During the War he served with the Army in India, reaching the rank of major, and he returned to Oxford in 1946 as lecturer in mathematics at Christchurch. Dr. Atkinson's work has been chiefly concerned with the analytical theory of numbers, and the properties of the Riemann  $\zeta$ -function.

#### Reading Institute of Education

AN Institute of Education has been established in Reading as the area training organisation for Berkshire, Buckinghamshire, Hampshire, Oxfordshire, West Sussex and Reading. The scheme for the Institute provides for a Board of Governors drawn in equal proportions from the local education authorities in the area and from the University of Reading. The Minister of Education has appointed Sir Frank Stenton, vice-chancellor of the University, as chairman. The principal objects of the Institute are to further the training of teachers and other persons intending to engage in educational work in the area; to foster close relations between the corporate members of the Institute (at present, the University of Reading, the county councils and county borough councils in the area and the training colleges in the area, namely, Culham, Bishop Otter, Easthampstead Park and Newlands Park); and to establish an educational centre for the promotion of the educational interests of students and teachers and other persons professionally concerned with or interested in education in the Institute area. The Institute will be established in or near Reading, and a search for suitable accommodation has already begun; ultimately it is hoped that the Institute will have a new building designed for the purpose. Mr. C. R. E. Gillett has been appointed director of the Institute.

#### Sources of Technical Assistance

A SURVEY of the technical assistance available for economic development in the United Nations and the Specialized Agencies has been prepared by the secretariat for the second session of the Sub-Commission on Economic Development of the Economic and Employment Commission (London: H.M. Stationery Office. United Nations, E/CN.1/Sub. 3/22. June 2, 1948). Its immediate purpose is to facilitate examination of provisions currently being made for such assistance to members of the United Nations in their programmes of economic development, and particularly to assist the Sub-Commission in considering measures for increasing the availability and effectiveness of such technical assistance. Its scope is limited to those activities, excluding the provision of funds and relief supplies, which are designed to assist economic development; provisions for technical assistance in the sphere of social welfare are not described in detail. The Survey gives a very clear but concise account of the types of assistance available, including that in the form of research and information, as well as international training, panels and conferences; and also of the sources of assistance. It then reviews in succession the various fields such as agriculture, forestry and forest products, fisheries, education and technical training, labour and employment, health, nutrition and safety, finance and currency, or statistics in which such assistance might be required. The Survey contains nothing that is new; but gives a convenient and impressive picture of the elaborate and interlocking organisation for world co-operation which has already been built up, and which could be used if the will to do so were genuine and widespread.

#### German Hydrographic Journal

REFERENCE was made in *Nature* of September 4, p. 364, to the first issue of the *Deutsche Hydrographische Zeitschrift*. The next two numbers have now appeared: Vol. 1, No. 2/3, June 1948; and Vol. 1, No. 4, August 1948. The former contains articles on problems of marine geology, coastal geodesy, terrestrial magnetism and oceanography, whereas No. 4 is completely devoted to oceanographical and tidal problems. An essay by O. Pratje on the bottom sediments of the southern and middle Baltic and their importance for the interpretation of fossil sediments is based on about a thousand bottom samples which had been collected in the years just before the War. It is accompanied by detailed charts and profiles. F. Rudolf Jung examines the limits of applicability of transit-bearing and of the trigonometrical determination of distances in the technique of marine surveying, and gives numerical and geographical aids for the practical work in question. F. Errulat deals with the mean intensity of great geomagnetic disturbances as dependent on geomagnetic latitude, and finds interesting relations with the results of J. Bartels. G. Neumann writes on resonance-oscillations of bights and on the mouth correction for seiches; his treatment of the Frische Haff agrees well with results which H. Lettau had derived from the registrations of tide gauges. F. Model discusses the thickness of the ice on the Alster in Hamburg towards the end of the severe winter of 1946–47. On the open basin a thickness of 51–56 cm. was found; below a rather broad and low bridge it fell to only 12 cm. G. Wust, studying once again the temperature-inversion in the deep waters of the South Atlantic, finds a remarkably close association



between the inversion and the bottom relief, and points out that the depth of the inversion rises and sinks in accordance with the semi-diurnal tide. There are probably also seasonal and aperiodic pulsations. An important paper by W. Horn gives a concise and partly new representation of the tides as a function of time. G. Tomczak describes a wave gauge, an instrument for measuring short-period oscillations of pressure in the sea, and F. Nusser presents a notable report on ice-conditions on and off the German coasts during the severe winter of 1946-47.

### Chemical Prevention of Potato Dry Rot Disease

AS a result of research during the past five years, Bayer Products, Ltd., Crawley Research Station, Brighton Road, Crawley, Sussex, claim to have developed a highly efficient preparation for the prevention of dry rot of potato tubers caused by the fungus *Fusarium caeruleum*. This preparation, marketed under the trade name of 'Fusarex', is based on 2,3,5,6 tetrachloronitrobenzene, a chemical first described in 1868 by Jungfleisch, who prepared it by treating tetrachlorbenzene with fuming nitric acid for some hours at near boiling point. 'Fusarex' is most effective for the control of dry rot when applied to the tubers immediately on lifting, followed by a period of four to six weeks storage in a clamp. It has been found in trials that the preparation does not need to cover each potato completely so long as an even distribution through the mass of tubers is obtained. Thus a simple manual application can be employed, involving no expense in labour or machinery, and no interference with the normal lifting operations. It has also been found that suitable 'Fusarex' treatment and storage conditions can delay the development of sprouts by the tubers. The treatment of main-crop varieties to prevent sprouting is now a practical proposition; but special techniques are still being worked out for early varieties. Intensive pharmacological tests have shown that tetrachloronitrobenzene is of such a low order of toxicity that it can be regarded as non-poisonous under the conditions of use suggested, and it is therefore safe to use on potatoes destined for human consumption and stock feeding.

### Jewels for Instruments

A REVISED edition of "British Standard 904", first issued in 1940, has recently been published (British Standard 904:1948. Dimensions of Instrument Jewels. Pp. 12. (London: British Standards Institution, 1948.) 2s. net). The forms and dimensions of V-jewels, ring stones and end stones for instrument purposes, and compass jewels, are specified; and in an appendix the method and apparatus required for the inspection of jewels is described. The Standard does not relate to jewels for watches and clocks, for which a separate British Standard is being prepared, nor to cup jewels for integrating meters, the form of which is still the subject of research.

### Sun-Bathing by Birds

RECENT communications to *British Birds* have directed attention to the widespread occurrence of the habit of sun-bathing among birds. The question has been raised "whether irradiation of the skin, with its consequent effect of vitamin D production, could take place through sun-bathing". Prof. W. C. Wynne-Edwards has stated that direct irradiation of the skin is usually impossible in both birds and mammals because of their thick coats. From observ-

ations lasting over sixteen years, however, Noble Rollin has collected photographs and information which lead him to the belief that irradiation of the skin takes place among jackdaws, chaffinches, blackbirds, hedge-sparrows and house-martins, although no evidence of sun-bathing has been observed among gulls and wading birds (*British Birds*, 41, No. 10; October 1948).

### Science Progress

AMONG the articles in the current issue of *Science Progress* (36, No. 144; October 1948) is one which has not only the appeal of a biography of a well-known man of science but also the charm of writing which reminds one of Maurois. This is "Augustin Fresnel: His Time, Life and Work, 1788-1827", by G. A. Boutry, director of the Laboratoire d'Essais, Paris. In the same volume Prof. H. P. Himsworth contributes a masterly survey of recent developments in the researches into liver disease, while E. E. Schneider's review of contemporary knowledge of the electronic structure of solids and H. H. Macey's consideration of the theoretical aspects of clay consolidation are supported by an article on the relationship between "Indeterminism and the Wish" by J. C. Gregory. The volume also contains the usual summary of recent advances in various aspects of science and a considerable number of reviews.

### Proceedings of the Physical Society

IN order to accommodate the increased number of papers submitted for publication, the *Proceedings of the Physical Society* is to appear in two parts, *A* and *B*. *Proceedings A* will include a contents list of the corresponding *Proceedings B* and vice versa. Section *A* will include subjects such as quantum theory, statistical mechanics, nuclear physics and cosmic rays, atomic physics, molecules, spectra, theories of solids, liquids and gases, surface phenomena, growth and properties of crystals, crystal structure, luminescence, electrodynamics, heat and thermodynamics, standards. Section *B* will include subjects such as acoustics, including ultrasonics, optical design, electron optics, colour, elasticity and other mechanical properties of solids and liquids, crystal structure analysis, magnetic materials, refrigeration and liquefaction, electric discharges, radio, geophysics, including ionosphere, astrophysics, solar physics.

### International Congress of Mathematicians

AN International Congress of Mathematicians will be held in Cambridge, Massachusetts, during August 30-September 6, 1950, under the auspices of the American Mathematical Society. It will be open to mathematicians of all national and geographical groups. Harvard University will be the principal host institution. A number of other institutions in Boston will join in the entertainment of Congress visitors. In recent years, mathematicians have been much impressed by the success of the conference method for presenting recent research in fields in which vigorous advances have just been made or are in progress. The 1950 Congress will include conferences in several fields. Following established custom, there will also be a number of invited addresses by outstanding mathematicians. In addition, sectional meetings for the presentation of contributed papers not included in conference programmes will be held in the following fields: I, Algebra and Theory of Numbers; II, Analysis; III, Geometry and Topology; IV, Probability and