

control purposes with the more conventional lay-out of the various aerodynamic surfaces. The Westland-Hill 'Pterodactyl' demonstrated the possibilities of tailless aircraft many years ago. The suppression of as much of the external body as practical requirements of accommodation allow is another obvious trend for the same reason.

Experimental work on high-speed flight has made it evident that swept-back wings are going to be inevitable at transonic and supersonic flight speeds. Again the vital factor appears to be that of control with the less conventional lay-out of the wing surfaces. The *A.W.52* follows a series of experiments carried out with gliders, and appears to be satisfactory in this respect. Further progress towards even higher speeds should be possible now that greater powers can be envisaged using the internal combustion turbine in conjunction with jet propulsion, and this or similar machines will undoubtedly be used in this way.

### Falkland Islands Dependencies Survey

THE Falkland Islands Dependencies Survey has recently acquired a vessel to enable it to carry out its expanding field of work in the Antarctic. The ship, which was named *John Biscoe* by Mrs. Creech Jones, wife of the Secretary of State for the Colonies, on December 16, has a double-skin wooden hull and a displacement of 1,015 tons; she is driven by Diesel-electric power. She carries a crew of twenty-five, and is to take a relief party in the summer to replace about half the party at present occupying the seven observation stations maintained by the Survey in the Antarctic. The new party will carry out geological, meteorological and zoological investigations, and is under the leadership of Dr. V. E. Fuchs, a geologist who has had experience of exploration in East Greenland and in East Africa. The *John Biscoe* has been named in memory of the discoverer of the southern part of Graham Land. The Falkland Islands Dependencies Survey (see *Nature*, March 22, p. 388) was set up under the control of the Colonial Office after the War to take over from the Admiralty the meteorological stations established in the Antarctic in 1943.

### Royal Society: Research Appointments

THE Royal Society has appointed Dr. K. Bailey, of the Biochemical Laboratory, Cambridge, to an Alan Johnston, Lawrence and Moseley Research Fellowship for research on the problems of human and animal health and diseases and the biological field related thereto. Dr. Bailey will work at the Biochemical Laboratory in Cambridge on the proteins of muscle fibril. The Royal Society has also appointed Dr. G. S. Dawes, of Worcester College, Oxford, to a Foulerton Research Fellowship in Medicine. Dr. Dawes will work at the Department of Pharmacology, Oxford, on the left ventricle reflex.

### Edward Rigby (1747-1821)

EDWARD RIGBY, who was born at Chowbent in Lancashire two hundred years ago on December 27, was a versatile man, distinguished alike in obstetrics, agriculture and civic administration. In medical literature his "Essay on the Uterine Hæmorrhage" (1775) is regarded as a classic, for it clearly differentiated between premature separation of the normal placenta (accidental hæmorrhage) and placenta prævia (unavoidable hæmorrhage). It was translated

into French and German, and up to the hour of his last illness the author was employed in the preparation of a sixth edition. A scientific agriculturist, Rigby experimented on his own farm at Framingham Earl, near Norwich, and the reputation of his writings on that subject led to his election as honorary member of the Philadelphia Society. In 1805 he became mayor of Norwich, and he is said to have "supported the chair with dignity and hospitality". He established in 1786 the Norfolk Benevolent Medical Society for the relief of the widows and orphans of medical men, introduced the flying shuttle to the manufacturers in Norwich, and in 1812 started vaccination in the city. Simple, placid and benevolent, Rigby was a delightful companion and a good conversationalist. He died on October 27, 1821, in his seventy-fourth year. His "Letters from France" constitute an animated and fascinating record of the stirring days at the outbreak of the French Revolution, besides forming a useful survey of the country's agriculture at the time. Rigby's son Edward (1804-60) was a well-known London obstetrician.

### New Nuclear Reactions

"NUCLEAR Transformations in the new High Energy Ranges" is the title of an address delivered by Prof. Glenn T. Seaborg, of the University of California, at a meeting of the American Chemical Society in New York on September 15 (see *Chemical and Engineering News*, 25, 2819; 1947). The great progress made recently in constructing new powerful machines for the acceleration of charged particles affords the possibility of bombarding targets with electrons of 100 MeV., and with deuterons and helium ions of 200 and 400 MeV. respectively. Entirely new nuclear reactions have been observed; for example,  $^{75}_{33}\text{As}$ , bombarded with 400 MeV. helium ions, produces among other atomic species the well-known  $^{36}_{17}\text{Cl}$ . This means that the arsenic atom has lost no less than 16 protons and 21 neutrons, not counting the two protons and two neutrons shot into it at the start of the reaction. To distinguish such transmutations from the ordinary nuclear reactions in which only one or two particles are ejected, and from fission reactions in which the nucleus is broken into two fragments, the term 'splintering reaction' is proposed. Further, under such strong bombardment fission can be enforced in such elements as bismuth, lead and thallium, and even in an element so low in the periodic table as tantalum; but as the secondary particles emitted have a much smaller energy, there is no possibility of inducing a chain reaction such as in uranium. Many radioactive isotopes so far unknown have been found as a result of these new nuclear reactions, which have still further widened the field radiochemists are called upon to explore; the splintering often leads to neutron-deficient isotopes and increases therefore in a welcome manner the comparatively small number of positron emitters among the artificial radio-elements. Some of them may find application as tracers. Still more important may be the physical aspects of this extension of the energy range; the creation from energy of mesotrons and, if the region of billions of electron-volts can be reached, also of neutrons and protons, seems now a possibility.

### Special Libraries in Australia

RAPID growth in the appreciation of the value of accurate and up-to-date information in science and technology was marked during the last decade. This

resulted in recognition that the work of librarians in special libraries and of information officers has a character of its own, and in the consequent formation of associations providing a platform for the discussion of common interests. The Association of Special Libraries and Information Services (A.S.L.I.S.) in Melbourne, Australia, is one of these, and it is to be congratulated on the launching of its journal, *Information*, in June 1947. This first issue contains, besides introductory matter, the first part of an article on documentary reproduction, another on patents in information, glimpses of the B. J. Ball, Ltd., library in Melbourne, and the constitution of the Association. An exchange corner for periodicals, abstracts of relevant literature, and questions and answers on the universal decimal classification are other features which will appeal to members. Although printing difficulties may make the appearance of the journal infrequent at first, it has made a good start. It should, perhaps, be mentioned that the Australian organisation A.S.L.I.S. is quite independent of the Association of Special Libraries and Information Bureaux (A.S.L.I.B.) in Great Britain, though the two are in very cordial relationship.

#### Indians of the South-Eastern United States

THE historical Indian tribes of the south-eastern United States are diverse in language, but they share so many important characteristics that they form a cultural province. This is illustrated by the arrangement of Mr. Swanton's massive work (Smithsonian Institution: Bur. of Amer. Ethnology, Bull. 137. Pp. xiii+943+107 pl. Washington, D.C.: Gov. Print. Office. 2.75 dollars), in which a brief, purely historical sketch of each individual tribe is given first, leaving the material culture to be dealt with as a whole. The book may be considered as supplementing and bringing up to date the relevant parts of the great two-volume *Handbook of American Indians North of Mexico*, edited by F. W. Hodge, published as Bulletin 30 of the same series in 1907 and 1910. The author regards it principally as a collection of source materials, and as such he hopes that it will be useful to future students. This hope should be fully realized, and in addition it will be a most useful book of reference. Some of the plates are not well chosen. It is difficult, for example, to see what is to be learnt from the rather distant group, in Edwardian dress, in front of a modern wooden building, labelled "Ladies Relief Society of the Church of Jesus Christ of Latter Day Saints, Catawba Reservation" (Plate 5). The space occupied by this and some others might have been better employed in illustrating objects of material culture.

#### Bibliography of Seismology

VOLUME 13, No. 19 of the *Bibliography of Seismology*, published by Dr. Ernest A. Hodgson from the Dominion Observatory, Ottawa, Canada, covers items 6,047-6,142 and carries the bibliography to the end of June 1946. This valuable publication, which deals with pure and applied seismology and subjects throwing light on them, covers in this issue world books, papers and works published on the Continent of Europe during the years 1939-45, together with a small list of patents. There are fourteen items from Holland including an obituary notice of Dr. G. Van Dijk (1877-1940), L. P. G. Koning on deep focus earthquakes (items 6,094-95), F. H. van Rummelen and S. W. Visser on Dutch earthquakes,

and a text-book on seismology by S. W. Visser (items 6,135, 6,137-38). The items from Finland, five in number, consist of four papers on isostasy and one on pure seismology, namely, Eijo Vesanen's "Ueber die typenanalytische Auswertung der Seismogramme" (*Ann. Acad. Sci. Fennicae, A, 3, Geologica-Geographica, 5*, pp. 244. Helsinki, 1942). Three items from France include obituary notices of Dr. Edmund Rothé and Dan Barfod La Cour and an article on French geophysics during the War. Item 6,107 contains references to a most important topical seismological question, namely, the use of the seismograph as a meteorological instrument; by means of micro-seisms tropical storm and cyclone centres at sea can be located and tracked. There is a list of the seismological items published in *Nature*.

#### An Unusual Asteroid

AN asteroid discovered in August by C. A. Wirtanen, Lick Observatory, is described in *Sky and Telescope* of October. Its magnitude at the time of discovery was 15, and it is estimated that its diameter is only a few miles. Its orbit is nearly circular and lies close to that of Mars, approaching the orbit of Mars to within 6 million miles; but its least distance from the earth is about 50 million miles. Its period is nearly 2.3 years—the shortest period of any asteroid with the exception of Eros.

#### Institution of Mining and Metallurgy: Officers for 1948-49

THE following have been elected officers of the Institution of Mining and Metallurgy for the session 1948-49: *President*, Mr. Sydney E. Taylor; *Hon. Treasurer*, Mr. Robert Annan; *Vice-Presidents*, Mr. G. Keith Allen, Mr. Donald Gill, Mr. V. Harbord, Colonel L. C. Hill, Sir Arthur Smout and Brig. R. S. G. Stokes. Mr. S. E. Taylor, the new president, was educated at Cambridge, where he read engineering science. He joined the technical staff of Messrs. John Taylor and Sons, managers and consulting engineers to mines in many countries, in October 1922, and became senior partner in 1941. In 1924 he visited Brazil, and since 1923 has paid numerous visits to India in connexion with the management of the mines on the Kolar Gold Field in Mysore State, and the re-opening of the Hutti gold mine in Hyderabad State.

#### Announcements

THE Royal Society is compiling a list of British scientific societies, together with the names of their officers, etc. As it is desired to make this as comprehensive as possible, it would be appreciated if any secretaries of such societies, who have not yet received a questionnaire from the Royal Society, would inform the Assistant Secretary, Royal Society, Burlington House, London, W.1.

TRINITY COLLEGE, Cambridge, offers research studentships and Dominion and Colonial exhibitions every year, and elections will take place in July 1948. Research studentships are open to graduates of universities other than Cambridge who are not more than twenty-six years of age. The exhibitions are open to undergraduates as well as those wishing to undertake research. Applications, to be sent through the head of the candidate's university, must reach the Senior Tutor, Trinity College, Cambridge, not later than May 1, 1948.