

composition of ammonia was made in 1785 and that of the bleaching power of chlorine in 1786. With Lavoisier, Fourcroy and Guyton de Morveau he compiled the "Methode de Nomenclature Chimique" in 1787. He was one of the first to become a convert to the views of Lavoisier. The Revolution, while it brought him into danger, also called forth his organising powers, and it was largely due to his efforts that the saltpetre supply of France was maintained at a critical time. With Monge and Clouet he did much to improve and extend the manufacture of steel. In the reorganisation of the Academy and the inauguration of the Institute in 1795 Berthollet took an active part. Napoleon appointed him and Monge as heads of a Commission to select from the spoils of Italy the choicest works of art, and Berthollet was one of the group of French men of science who accompanied him to Egypt. In 1803 he published his well-known "Essai de statique chimique". Four years later he founded the famous Société d'Arcueil, comprising as members Laplace, Biot, Gay Lussac, Thenard and one or two others. After the suicide in distressing circumstances of Berthollet's son, the Society was broken up and from that time Berthollet lived in retirement. He was a senator, a grand officer of the Legion of Honour, and under the empire was created a count. He died at Arcueil after a long and painful illness on November 6, 1822. His character was amiable, frank and sincere. Though he enjoyed a great reputation in his time, he was modest and unostentatious and his honesty and courage were sufficient to impress even Robespierre. His eulogy was pronounced before the Academy of Sciences by Cuvier.

#### Radioactive 'Tracers' for Germany

A CONTRACT for the supply of radioactive tracers to approved research institutes in the Bizone of Germany has recently been placed with the Atomic Energy Research Establishment, Harwell, by the Joint Export-Import Agency, following the decision of the Isotope Allocation Committee of the Ministry of Supply in January last that radioactive 'tracers' produced in the Harwell Gleep could be made available for research work in Germany. The decision of the Isotope Allocation Committee was communicated to the authority responsible for the control of research in the British Zone, who immediately informed the U.S. Research Control Group. Together they approached the board of the import agency, supported by their respective public health advisers: and with the minimum of delay the Board authorized the import of radioactive tracers from Harwell into the Bizone.

Research institutes in the Bizone thus gain access to a range of radioactive tracers, the indigenous production of which is denied to Germany under Control Council Law No. 25 for the Control of Research. Their allocation within the Bizone is the responsibility of a small German committee, competent to decide where proper use will be made of the small total supply of 'tracers' at present available from Harwell to Germany. In order to assist the Committee in its task, a team of experts from Harwell visited Germany during October and demonstrated the latest ancillary equipment. Thus everything possible has been done to ensure that the maximum use shall be made of the limited quantities of radioactive 'tracers' which can be spared by the Atomic Energy Research Establishment at Harwell for export to the Bizone.

#### Research Council of Alberta

THE twenty-eighth annual report of the Research Council of Alberta (King's Printer: Edmonton) summarizes the work of the Council for 1947. All investigations in progress in 1946 were continued and a new project involving a survey of road surface conditions existing at selected places on the main highways of the Province, both where there was evidence of deterioration of the pavement and where the road appeared to be standing up satisfactorily in service, was commenced. The Council has continued to take a close interest in the bituminous sand separation plant being erected at Bitumount on the Athabaska River, and further laboratory work has shown that the loss of oil in the hot separation process is not due to filming on to particle surfaces but to the flecks below a critical size being enmeshed among the particles and afterwards, on redispersion of the tailings, settling with the clay, increase of clay content in the bituminous sand decreasing the oil recovery. Work on the applicability of water-flooding to the bituminous sands has continued, as well as on the systematic examination of Alberta coals and on the carbonization of low-grade sub-bituminous coals in the pilot plant low-temperature retort designed on the principle of a vertical shaft carbonizer. Investigations on the preparation of Alberta coals for the market and on some aspects of the chemical constitution of coal have been commenced. The Gasoline and Oil Testing Laboratory has widened its scope and now includes the examination of aviation, jet, Diesel and other fuel oils, petrol, lubricating oils, hydraulic fluids and solvents. Geological work included investigations of coal, clays, sand, water and miscellaneous mineral investigations, the major project being a survey along Evans-Thomas, Ribbon and Pigeon Creeks to determine coal measures in that area. Under the natural gas project for the conversion of carbon monoxide and hydrogen, from natural gas and oxygen, into a product resembling crude oil, the influence of operating conditions, catalyst structure and composition on the yields of liquid hydrocarbons was further studied, and a modified Emmett apparatus used to measure the surface areas of various catalysts. A market survey of poplar products was conducted, and the soil survey programme was continued in co-operation with the Dominion Department of Agriculture and the University Department of Soils. Tests were also made on the utilization of quartz sand and of straw.

#### Field Archæology in Great Britain

A NEW report, the "Survey and Policy of Field Research in the Archæology of Great Britain. I: The Prehistoric and early Historic Ages to the Seventh Century A.D.", has recently been published by the Council for British Archæology, Institute of Archæology in the University of London (1948; price 5s.). The object of this publication is to consider briefly—in only 120 pages—the present state and future desirable direction of British field research. A number of archæologists have epitomized, without references, their present ideas about the periods under review and have pointed out where further work should be undertaken to settle doubtful questions and to fill in gaps. The idea of giving a present starting point and of suggesting where investigators should concentrate their efforts in the future is excellent. But it is not easy of execution. A volume issued under the auspices of the Council for British Archæology might be considered as indeed author-

itative, yet the reader should remember that some of the statements made are really matters of opinion of the writers concerned and not universally agreed upon. For example, a number of investigators cannot agree with the statement at the top of page 21, and will affirm on the contrary that the industries in the top gravels of the 100-ft. terrace below London are indeed quite late and do belong to the same series as those from East Anglia mentioned at the bottom of page 20. Again, in such a short epitome is it not perhaps a pity to have introduced a totally new nomenclature for the glaciations which has not yet been to any extent accepted? The considerable cave excavations of Upper Palæolithic industries are dismissed in about three sentences, which is scarcely sufficient. The Neolithic Age is allowed three pages. Those who have studied the period will know the subject-matter already, while those who are less instructed will find the discussion far too condensed. But such a work lends itself to criticisms on almost every page, and yet undoubtedly it has a definite value. It covers a far wider range in time than most archaeological works dealing with Great Britain, and in spite of criticisms of details, it does give a bird's-eye view of what is known of the period under review. The pin-pointing of what is required to be discovered by future investigators is also very useful.

#### Agricultural and Horticultural Research Station, Long Ashton

THE annual report of the Agricultural and Horticultural Research Station, Long Ashton, for 1947 has now been published (price 10s.). The problems of the cider industry naturally play a prominent part in the work of the Station, and a list of suitable varieties for planting has been drawn up. Sweet and bitter-sweet sorts are specially advised, since many orchards at present contain too high a proportion of sharp varieties. Studies on the chemical composition of different ciders have been started and already fresh lines for further research work are indicated, which may well lead to results of practical importance. Another group of papers deals with the black currant crop. New varieties are described, and management and manurial treatment discussed. The nitrogen requirement of this crop is particularly high, and composts and stable manure alone have proved inadequate. Both fruit and vegetable crops are included in the investigations on plant nutrition. New methods have been developed for studying molybdenum deficiency in sand culture, while in the soil acidity investigations, some account is given of how the specific effects of aluminium toxicity, manganese toxicity, and calcium deficiency in various crops may be distinguished. As regards plant pests, a fluorine compound, *bis*-( $\beta$ -fluoroethoxymethane), has been found to exert remarkable insecticidal properties, when watered on the soil, on beans and cauliflowers. Although compounds of this type cannot be used in commercial horticulture in view of their extremely poisonous nature, the discovery is of importance, for by it, light may be thrown on the process of translocation within the plant tissues.

#### Local Government

THE problem of the definition of local government areas for one purpose or another is a very complex one. The needs of local administration have long outgrown the existing framework, and for every aspect of local government the boundaries need to

be redrawn. In a paper in the *Geographical Journal* (111, 4-6) entitled "The Boundaries of Local Government Areas", Mr. E. W. Gilbert discusses some of the problems involved, especially as the geographer sees them, with reference to the "Local Government Boundary Commission Report" for the year 1946. A valuable feature of his paper is the series of twenty maps of England and Wales showing boundaries of areas that have been used or suggested for the different purposes, including gas and coal boards, electricity, railways, hospitals, post office, weather forecasts, and so forth. The divergence of views is obvious from these maps. Provinces or areas, each with a regional consciousness, do occur; there is no question of that; but the difficulty lies in their definitions. Even as regards towns the problem is not easy since town boundaries are arbitrary and do not coincide with the urban areas. Again, it is essential that the confines of an administrative region should embrace an area of which all parts are easily accessible in terms of time and expense. This feature has much to do with the growth of regional consciousness.

#### "Silva of North America"

"SILVA OF NORTH AMERICA", the authoritative description of the trees which grow naturally in North America exclusive of Mexico, by Prof. C. S. Sargent, long out of print, has now been reprinted by Peter Smith, 321 Fifth Avenue, New York, 16, in a limited edition, complete with all the illustrations, in fourteen volumes (bound in seven) at 200 dollars net. Permission to reprint these books was granted to Peter Smith by Dr. E. D. Merrill, director of the Arnold Arboretum.

#### Announcements

SIR EDWARD APPLETON, secretary of the Department of Scientific and Industrial Research, has been appointed principal and vice-chancellor of the University of Edinburgh. It has also been announced that Sir Edward has been awarded the Valdemar Poulsen Gold Medal of the Danish Academy of Technical Sciences, "for outstanding contributions to radio technics and particularly for remarkable achievement in research on the ionosphere". The award was instituted in commemoration of the work of Dr. V. Poulsen, the inventor of the Poulsen arc and a pioneer of radio-telephony, who received the first medal on the occasion of his seventieth birthday on November 23, 1939.

MR. ROGER DUNCALFE has been elected chairman of the General Council of the British Standards Institution in succession to the late Sir Clifford Paterson.

THE Council of Scientific and Industrial Research, India, has established an Indian Scientific Liaison Office in London, and Dr. S. Bhagavantam, who was professor of physics in the Andhra University, Waltair (India), has been appointed chief scientific liaison officer. This Office is with the Scientific Liaison Offices of the other Dominions, at Africa House, Kingsway, London, W.C.2.

THE price of Richardson's "Veterinary Protozoology" reviewed in *Nature* of November 13, p. 756, is given as 10s. net. We are informed by the publishers, Messrs. Oliver and Boyd, Ltd., that the correct price is 18s. net.