

for research on ageing to the Department of Psychology, Cambridge, has been renewed for a further three years, and Dr. T. Howell's work on the pathology of ageing and especially investigations into the incidence and manifestations of chronic bronchitis have been assisted by grants totalling £2,300 over three years. Grants made before the formation of the National Corporation for the Care of Old People are reviewed, and of the Foundation's grant to the Corporation, £440,000 has been found from income to date and the remaining £60,000 will be provided from the income of the first two years of the quinquennium. A grant of £4,000 was made to defray the expenses of the official delegates to the inter-Commonwealth conference of universities, and grants totalling £14,000 for five years were offered to enable the Caldecott Community in Kent to open an experimental reception centre for homeless and insecure children, while £9,000 has been granted to the Commonwealth (Agricultural Bureaux) Potato Collection for new greenhouses and laboratory.

RESEARCH COUNCIL OF ALBERTA

ANNUAL REPORT FOR 1948

THE twenty-ninth annual report of the Research Council of Alberta for the year 1948* includes the customary list of members and of staff and of publications of the Council. The bituminous sand studies were prepared for publication; but the separation plant at Bitumount was not put into operation, and although further work was done on the role of bituminous sand in the hot-water separation process, the study of the applicability of the general method of water-flooding to recover oil from the bituminous sands has been concluded as of no practical value.

The chemical and physical survey of Alberta coals continued, and it has been observed that the capacity-moisture contents of Alberta coals appear to follow a step-wise course, as the carbon contents increase and the oxygen contents decrease from immature to mature coals. The principles of operation of the New Stansfield report for low-temperature carbonization of sub-bituminous coals have been established, and investigations have been started on the briquetting quality of local asphalts and on the production from slack coal of a product suitable in size and quality for domestic and industrial purposes without the use of pressure.

The scope of the Gasoline and Oil Testing Laboratory was broadened to include the analysis of all types of petroleum products except greases. In the geological field, the principal projects were a search for high-grade clays and a detailed survey of mineral resources in specific areas with emphasis on water supply. A systematic study was made of soil conditions and the densities secured with the construction procedures being used on three new high-way jobs.

Testing of catalysts for use in the synthesis of liquid fuels from carbon monoxide and hydrogen was

discontinued in May 1948; but the Council will keep in touch with work being done elsewhere on the Bergius and the Fischer-Tropsch processes and on the gasification of coal for the synthesis process. A study of under-employment in the Alberta coal industry was commenced in May 1948, the soil survey of the Peace River district was continued and also the physical and chemical studies of wheat and oat straws; while the investigation of industrial processes that may be suitable for introduction into Alberta continues to be an important feature of the work of the Council.

RECENT EARTHQUAKES

DURING the period June 1–September 30 there were about forty major earthquakes, 140 moderate ones and some minor activity. The two greatest shocks during the period were probably those on July 10 in eastern Turkestan and on August 22 off British Columbia. Both reached instrumental magnitude 8. The former took place at 03h. 53m. 36s., G.M.T., from a focus with epicentre near lat. 39° N., long. 71° E., and was followed on the same day by four strong aftershocks and two moderate ones. The latter, at 04h. 01m. 12s., G.M.T., on August 22, took place from a focus with epicentre near lat. 54° N., long. 133° W., and was felt over a wide area in British Columbia. Minor damage was done. The earthquake caused a seismic sea-wave or *tsunami* which attained a height of two feet at Ketchikan, Alaska, and for this earthquake the Hawaiian seismic sea-wave warning service was brought into operation (see *Nature*, October 1, p. 560). The shock of deepest focus for the month happened on June 12 from a focus 600 km. deep with epicentre near lat. 27° S., long. 64° W., in northern Argentina. An aftershock the next day with the same epicentre took place from the same depth of focus.

An earthquake on July 23 from a focus with epicentre near lat. 38.5° N., long. 26.5° E., near the west coast of Turkey was destructive in Izmir and Karaburun and in the island of Chios. In Chios four people were reported killed, fifty injured and more than two hundred houses destroyed. The shock attained instrumental magnitude 7. The earthquake in central Ecuador on August 5 (see *Nature*, August 13, p. 266) attained instrumental magnitude 7. On August 17 an earthquake with instrumental magnitude 6½, having an epicentre near lat. 39° N., long. 40° E., caused the deaths of 320 people, chiefly in the districts of Karlioiva and Bingol in north-eastern Anatolia.

In England on June 23 at about 8.14 p.m. and again at about 10.14 p.m., British Summer Time, the inhabitants of the districts around Queen's Cross, Dudley, Brierley Hill, Stourbridge and Wolverhampton felt earth tremors which were also recorded on the seismograph at Hagley belonging to Mr. H. V. Shaw.

Readings from seismograms have been received from the United States Coast and Geodetic Survey in co-operation with Science Service, the Jesuit Seismological Association (St. Louis, U.S.A.), Strasbourg and Zurich, and also from individual stations at Aberdeen, Belgrade, Cleveland (Ohio), De Bilt (Netherlands), Durham, Edinburgh, Kew, Stuttgart and Toledo.

* Research Council of Alberta. Report No. 54: Twenty-ninth Annual Report of the Research Council of Alberta, 1948. Pp. 27. (Edmonton, Alta.: King's Printer, 1949.)