

are now being made into the relations between solar radiation and ozone should throw a great deal of light on the effect of sunspots on weather.

The problem is complicated by terrestrial effects, such as the lag in changes of world temperature caused by the masses of polar ice and by the movements of powerful ocean currents, or the disturbing effects of great volcanic eruptions. All these factors will need to be taken into account before long-range forecasts can attain a really effective precision, but Mr. Inigo Jones gives a number of examples to support his view that in Australia at least the major control of weather is exerted by the sun.

Canned Fruit and Vegetables

THE processes that made the preservation of fruit and vegetables possible were discovered in France more than a century ago, but although numerous canning factories have been in operation in several European countries, America, and parts of the British Empire, it is only during the last ten years that any have been built in England. However, 53 such factories were in operation in this country by 1931.

The quantity of canned fruit imported into England has shown an enormous increase in recent years. In view of this greater demand, the home industry has every prospect of success, provided the grower will produce the right type of fruit and vegetable. To meet this need, the Ministry of Agriculture has published an illustrated bulletin (No. 45) entitled "Fruit and Vegetable Production for Commercial Canning" (London: H.M. Stationery Office, 1s. 3d.).

Plums are by far the most important tree fruit for canning purposes, the use of cherries being somewhat restricted owing to the tendency of the juice to act on the metal container and the difficulty of finding a suitable variety. As regards the commonly grown soft fruits, the majority may be successfully canned if firm, clean fruit is selected. Up to the present, peas are the only vegetable that has been canned in any quantity, but the possibilities of extending the industry to include other vegetables are indicated.

Production for the cannery is an entirely different proposition from production for the fresh market, and it is essential that the grower should recognise this from the start. On the whole, it would seem most suited to large-scale producers with mechanical methods of cultivation, as regular, standardised consignments are required and costs must be kept as low as possible. From the long experience obtained in other countries, the desirability of contract growing is indicated. Various methods of this system are discussed, but it is evident that special arrangements will need to be worked out to meet the particular requirements of the different crops. Some such methods should, however, do much to promote the development of the industry and give confidence to the growers.

Standardised Preparations of Vitamins A and D

WE are glad to note that British manufacturers have taken full advantage of the recent striking advances in our knowledge of the fat-soluble vitamins A and D and have now available for general clinical use standardised preparations of these highly important substances. The isolation of calciferol (vitamin D) by Dr. Bourdillon and his collaborators has been followed in a remarkably short space of time by its preparation on a commercial basis by British Drug Houses, Ltd., who are to be congratulated on the rapidity with which they have translated a delicate

laboratory process to a works' scale. This firm now supplies, under the name of Radiostol Solution and Radiostol Pellets, pure crystalline vitamin D. The solution, the activity of which is such that one fluid ounce is equivalent to fifty fluid ounces of cod-liver oil, is a tasteless preparation of the pure vitamin in oil, while the pellets contain it incorporated in cocoa butter, one pellet being equivalent to a full adult dose of cod-liver oil.

Another physiologically standardised vitamin D product, sold under the brand name of Ostelin, emanates from the Glaxo Laboratories (Joseph Nathan and Co., Ltd.). This preparation, which was originally manufactured in 1924 from cod-liver oil but is now prepared by the carefully controlled irradiation of ergosterol, is also supplied in both liquid and tablet forms. Ostelin liquid, which is standardised to contain 5000 international units of vitamin D per c.c., is tasteless and miscible with water, and can therefore be dispensed in pharmaceutical mixtures. The tablets contain, in addition to 500 units of vitamin D each, neutral calcium glycerophosphate.

More recently the Glaxo Laboratories have also put on the market, under the brand name of Adexolin, a mixed preparation of both vitamins A and D in proportions normal to cod-liver oil. Adexolin is available both as liquid and capsules. The special feature of the liquid, a fluid oz. of which is equivalent in both vitamins to 20 fluid oz. of good cod-liver oil, is that as a result of a special process it is largely free from the objectionable taste of ordinary fish-liver oil concentrates. The capsules have been designed to allow the administration of larger quantities of the two vitamins than is necessary for infants. The prophylactic dose for adults is usually 1-3 capsules per day, but in cases of acute septicæmia complicated by high febrile conditions, so many as 24 capsules per day can, we are informed, be administered with highly favourable results.

University and Educational Intelligence

BIRMINGHAM.—The degree of D.Sc. has been awarded to T. L. Ibbs for various papers on thermal diffusion and the form and field of force of the carbon dioxide molecule and allied subjects.

LONDON.—Mr. J. L. S. Hatton, principal of East London College, has been elected vice-chancellor for 1932-33 in succession to Dr. J. Scott Lidgett, whose term of office expires on Aug. 31. Dr. W. R. Halliday, principal of King's College, has been appointed deputy vice-chancellor for the same period in succession to Canon Douglas.

Prof. D. T. Harris, since 1921 assistant professor in the Institute of Physiology at University College, has been appointed professor of physiology (London Hospital Medical College) as from Oct. 1.

The title of University reader has been conferred on Dr. Evelyn E. Hewer, lecturer in histology at the London (R.F.H.) School of Medicine for Women.

OXFORD.—Among the honorary degrees conferred on June 22 were the following: D.Sc. on Sir John Russell, director of the Rothamsted Experimental Station, and Prof. Willem de Sitter, professor of astronomy in the University of Leyden; D.C.L. on Sir Arthur Salter, recently director of the Economic and Finance Section of the League of Nations.

Sir James Frazer is to deliver the Sir Basil Zaharoff lecture for this year.

THE National University of Ireland is about to enter upon its twenty-fifth year and has signalled the approach of this anniversary and "the special significance

ance of this year, 1932, in the religious and national as well as international life of the Irish people" by issuing a sumptuous "National University Handbook, 1908-1932". This volume, produced at the Sign of the Three Candles in Fleet Street, Dublin, by Colm O'Lochlainn, a graduate of University College, Dublin, deals with the whole of the academic activities of the University, its three constituent colleges at Dublin, Cork, and Galway, and the recognised national ecclesiastical college of St. Patrick, Maynooth, the relationship of the University to secondary schools, and its social and recreative interests. It includes lists of publications, literary and scientific, by the teaching staff and others holding higher degrees of the University. A chapter on applied science records achievements of four of its science graduates distinguished as research workers: Dr. E. J. Butler, director of the Imperial Bureau of Mycology at Kew since 1920; Dr. F. D. Murnaghan, who has held high appointments as a mathematician in the United States; Dr. T. A. McLaughlin, initiator and managing director during the constructive period of the Shannon Power Electrical Scheme; and Dr. J. J. Drumm, an account of whose remarkable traction battery by Prof. A. J. Allmand, published in *NATURE* of March 12, 1932, is reproduced in the Handbook. The development of work in applied science in the University has been fostered by the liberal system of travelling studentships, to which the Handbook refers as having provided awards far exceeding any similar facilities offered by other universities in the north-west of Europe.

THE University of London has published, in the form of a pamphlet entitled "New Buildings on the Bloomsbury Site" (18 pp. with illustrations and map), its first proposals for the development of this important site of ten acres behind the British Museum. As frontispiece is a photograph of the model prepared by the architect, Mr. Charles Holden, of the proposed University buildings as seen from Russell Square. The model, without detail or fenestration, gives an impression of a vast building, cunningly devised and working up to a great tower, placed centrally on the site and visible from the main approaches to the new buildings. The tower, as the architect explains, will dominate the group and will serve as the main entrance to the buildings—the administrative building to the south and the library and scholastic sections to the north. "The very orderly disposition of the parts", he adds, "and the strong horizontal character of the whole would give to the mass a classical bias which, together with the rhythmical disposition of the window and door openings and other essential features, may be relied upon to present a neighbourly front to the British Museum and to the surrounding buildings, without the necessity of introducing a columnar treatment." The nearest anatomical parallel to the plan is a spine with vertebrae extending from the tower to the northern extremity facing Gordon Square, the administrative block and the Great Hall forming the head and facing Sir John Burnet's northern extension of the British Museum with its classical columns, the Great Hall being on the Russell Square side of this frontage. The height of the tower is not stated, but it would appear to be about 200 ft.—in no sense a skyscraper, but high enough and impressive enough to give character and unity to the architect's design. The pamphlet includes an account of the history of the University, stressing appropriately its difficulties in finding suitable accommodation for its administrative work; and particulars are given of some of the purposes—university and collegiate—for which the new building will be devoted.

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Calendar of Geographical Exploration

July 3, 1798.—The Zambezi and the Cunene

Lacerda left the Zambezi and travelled northwards between Lakes Nyasa and Bangweolo. He had previously explored the Cunene River, and thought that the upper course of the Zambezi might be connected with the Cunene. If this were so, he hoped that the Portuguese might establish cross-country trade between Mozambique and Benguela. Lacerda died in October 1798, and his party returned to Tete in November 1799. Much new information had been gained, but it was soon forgotten and was not available when Livingstone began his travels.

July 3, 1826.—The Arctic Coast of Canada, 1825-26

Sir John Franklin reached the head of the Mackenzie delta. There his party divided into two groups, Sir J. Richardson leading a group eastwards and Franklin going west. Richardson traced 863 miles of unexplored coast between the Mackenzie and the Coppermine Rivers, discovering and naming Franklin Bay, Wollaston Land, Dolphin and Union Strait, and Coronation Gulf. Franklin traced the coast westwards from the Mackenzie for 374 miles to Cape Beechey.

July 4, 1734.—The Siberian Arctic

Pavlov and Muraviev left Archangel to sail for the mouth of the Ob. The expedition formed one of the numerous surveys inaugurated by the Russian Senate, the Admiralty, and the Academy of Sciences in the thirties of the eighteenth century. The impetus towards the geographical survey of Siberia was given by Peter the Great, though the work was not begun until after his death. The boats of the 1734 expedition proved unsatisfactory and a second journey started in 1736, with Malygin in place of Muraviev. Malygin anchored in the sound now named after him; he and his companions mapped the coast of Yalmal and also of Byeli Ostrov. The Ob mouth and the Gulfs of Tas and Gyda were mapped as the result of Ovzyn's voyage (1734-37), while the coast between the Yenisei and the Taimyr Peninsula was explored by Minin in 1738-40.

July 8, 1497.—Vasco da Gama

Vasco da Gama with four vessels left the Tagus River on a journey which filled in the gap of 800 miles of unknown east African coast between the limit reached by Diaz in his 1487-88 voyage and the part known to the Arabs. After a five-thousand-mile ocean journey, he anchored off the west coast of South Africa near the Cape of Good Hope, where, in their eight days' stay, the Portuguese got into touch with the Hottentots. They put into Mossel Bay, and later passed the pillars set up by Diaz, thus entering unknown waters. Natal was passed on Christmas Day. At the Quilimane River they stayed for twenty-two days, suffering much from the low-lying, marshy nature of the coast. At Mozambique they met Arab dhows and learned from them the nature of their further journey along the east coast. The monsoon favoured them and they reached the Indian coast on May 23. The return journey from India to Africa occupied three months, and so many of the men became ill and died that one ship was abandoned in Mombasa; but after that the conditions were favourable and the first ship reached Lisbon in June 1499. This was inaugurated the sea route to India, which so profoundly affected the relations between Europe and Asia. Da Gama made a second voyage to India in 1502, and in 1524 was appointed Viceroy of Portuguese India, but died at Cochin on Dec. 24, 1524.