

achieved by the addition of a variety of reagents, including thymol, paraffins, aluminium phosphate, etc.

Amylose may be synthesized by the action of an enzyme (Hanes's phosphorylase or *P*-enzyme) acting upon glucose-1-phosphate under appropriate conditions. The phosphorylase may be extracted readily from potato juice and obtained in a highly purified form. The synthesis using purified materials will not begin until a 'primer' consisting of several glucose units with the starch-type pattern is added. The synthesis starts from the non-reducing chain ends, and the glucose units are joined by 1:4 α -glycosidic linkages. Amylose may be converted into amylopectin by a second 'branching' enzyme termed *Q*-enzyme which has been obtained in Birmingham in a crystalline condition. The branching may involve 1:6-linkages which are now termed 'cross' linkages. The synthesis of the starch components by these enzymes, alone and in admixture in varying proportions, gives a valuable means of studying an important biological synthesis. The depolymerization of starch components can be studied by means of the 'amylase' enzymes, which have some commercial importance. There is a good deal of overlap in the mode of action of starch-synthesizing and -depolymerizing enzymes obtained from microbial, protozoal, plant and animal tissues.

The meeting concluded with a lively discussion.

OBITUARIES

Prof. C. B. Fawcett

PROF. C. B. FAWCETT, who held the chair of geography at University College, London, for twenty-one years until his retirement in 1949, died on September 21 at the age of sixty-nine.

A graduate of University College, Nottingham, he later studied under Herbertson at Oxford before becoming lecturer in geography at University College, Southampton, in 1914. He moved in 1919 to the University of Leeds, where he was in charge of the young Department of Geography until he was appointed in 1928 to succeed Prof. L. W. Lyde in London.

Fawcett was a leading member of the group of pupils of Mackinder and Herbertson who pioneered the modern development of honours schools of geography in British universities, and he was for many years prominent in the counsels of the Geographical Association, Section E (Geography) of the British Association, and the Institute of British Geographers, of which he was one of the founders and an early president.

A faith in the essential reasonableness of his fellow men, as well as his own rationalism, permeated all his work, and were revealed, for example, in his interest in the development of an auxiliary world language and calendar reform. They found particular expression in "The Bases of a World Commonwealth", published in the darkest period of the Second World War. His emphasis upon the unity of the Atlantic community combined with his personal qualities to make him a ready and welcome visitor to New England. Having already been visiting professor at Clark University, Worcester, Mass., in 1931 and again in 1947, he returned there for two years after retiring from the chair at University College, London.

It is perhaps too soon to attempt an assessment of his contribution to the development of geographical thought; but the significance of his early work, "The Provinces of England" (1919), in the history of the regional concept is already evident. That it should have been specifically written to point a reasonable basis for devolution of government and reform of administrative areas was typical of his essentially practical outlook. Geography claimed his absorbing interest not for its own sake, but also as a social science which in its application to social and political problems could increase the sum of human happiness. To the studies of population problems and political geography, which increasingly engaged his attention, he brought an insistence upon appreciating the realities of hard facts. His own command of facts was an unfailing source of wonder to his students, who will remember the encyclopædic knowledge on all manner of topics which illumined or diverted his lectures, as they will his unfailing kindness and outstanding fairmindedness.

A. E. SMAILES

Prof. Aikitu Tanakadate

FRIENDS and acquaintances of Prof. Aikitu Tanakadate will learn with regret of his death on May 21 in Tokyo, after a long and active life of ninety-five years.

He was born in 1856 at Fukuoka town in the present Iwate Prefecture, Japan. Entering the University of Tokyo in 1878, he studied physics under J. A. Ewing and T. C. Mendenhall, and afterwards under C. G. Knott, who were at that time visiting teachers of the University. His interest was particularly directed towards geophysical phenomena, and soon after graduation he started gravimetric and magnetic surveys over Japan, which had not been explored scientifically by that time. "A Magnetic Survey of Japan", which was written by him with admirable thoroughness and completeness and was published in 1904, is universally known as a monumental work of this kind. In 1888 he went to Glasgow, where he studied physics as a pupil of Sir William Thomson (Lord Kelvin). He returned to Japan in 1891 and in that year was appointed a professor in the University of Tokyo, a post which he held until 1917.

Prof. Tanakadate was the oldest member of the Japan Academy of Science, an emeritus professor of the University of Tokyo, the first recipient of the Order of Cultural Merit, sometime vice-president of the National Research Council of Japan, and a member of the House of Peers. He also held important positions in many learned societies. For more than seventy years of his career as a scientist he literally devoted himself to initiating and promoting natural sciences in Japan. His activity covered fields in a wide range of subjects—to mention a few, geodesy, variation of latitude, seismology, terrestrial magnetism and aeronautics. Japan urgently needed such a pioneer as Prof. Tanakadate, particularly towards the end of the nineteenth century, after the Meiji Restoration of 1868, which brought to an end the three hundred years of Shogunate feudalism. His love of science as well as of his native country seems to have been the primary motive which drove him to this honourable duty. This does not mean that he was a man of narrow-sighted nationalism. On the contrary, he is known as a strong advocate of international friendship and co-operation. He travelled abroad no less than twenty-three times and attended

a number of scientific assemblies and presided at several of them. He was the first president of the International Association of Terrestrial Magnetism and Atmospheric Electricity. C. E. Guillaume, of France, is said to have one day announced with mock seriousness that the second moon was newly born; his explanation to rather puzzled hearers was this: "It is Prof. Tanakadate. He makes a revolution around the world every year".

Prof. Tanakadate was liked by everybody who had the opportunity of becoming acquainted with him, and admired for his unfading love of science as well as for his logical and brilliant way of thinking, inter-

mixed occasionally with a good sense of humour. Many old friends all over the world will honour his memory.

CHUJI TSUBOI

WE regret to announce the following deaths:

Dr. W. E. Gye, F.R.S., lately director of the Imperial Cancer Research Fund, on October 15, aged sixty-eight.

Sir Frederick Keeble, C.B.E., F.R.S., formerly Sheradian professor of botany in the University of Oxford, on October 19, aged eighty-two.

NEWS and VIEWS

Sir William Ramsay and University College, London

REFERENCE has already been made (see *Nature*, October 4, p. 554) to the appeal for funds which has been made on the occasion of the centenary of the birth of Sir William Ramsay. The appeal was well and truly launched at a Ramsay Memorial Dinner held at University College, London, on October 15, at which H.R.H. The Duke of Edinburgh was guest of honour and proposed the toast "to the immortal memory of Sir William Ramsay". He took as his theme the importance of fundamental research and its significance for industrial progress, quoting from his experience of recent work going on in State research institutions, and using Sir William Ramsay's discovery of the rare gases as an example of the manifold and unsuspected uses which may be made in everyday life and industry of the results of fundamental research. The reply to the toast was made by Dr. B. Ifor Evans, provost of University College, who outlined the purpose of the appeal, and stated that £57,000 has already been promised towards the £100,000 which it is hoped to raise. During the dinner, it was announced that Lady Tidy (a daughter of Sir William Ramsay) and Prof. Morris Travers—both of whom, with other associates of Ramsay, were present—had decided to present to the College the collection of Ramsay letters, papers and other materials which Prof. Travers has been accumulating over a long period. Incidentally, it may be added that Prof. Travers has prepared a fascinating account of Ramsay's life and work which has been issued by the College in connexion with the centenary appeal.

The appeal is being issued jointly by the University College Committee and the Ramsay Memorial Fellowships Trustees. After Ramsay's death in 1916, funds were raised by public subscription and were devoted partly to building a chemical engineering laboratory in the College and partly for the endowment of Ramsay Memorial General Fellowships to enable advanced students of chemistry from any part of the world to carry out research at any approved centre in the United Kingdom. Fellows from overseas are supported by funds raised in the country of their origin, and in this way Canada, Denmark, France, Greece, Holland, Italy, Japan, Norway, Spain, Sweden, Switzerland and the United States have sent distinguished young students to Great Britain. Funds subscribed in Britain were mainly devoted to British students, and the capital fund available for that purpose is now inadequate to maintain the normal award of one fellowship of two-years tenure every year. It is therefore proposed to devote £25,000 from the £100,000 which the appeal is hoped to produce

to augment the Fellowship Trust General Fund, so that the normal number of British fellowships may be restored. With the remaining £75,000 it is hoped to make a substantial addition to the laboratory accommodation at University College and to provide additional equipment. When Ramsay went to the College, the facilities for research were meagre. By his personal exertions he supplemented what was available to him in the College, until he led a famous school of research. He would surely have approved the purpose of this centenary appeal to industry and others to augment the resources of the College, so badly damaged during the Second World War, and to provide more funds for the maintenance of that world-fellowship of distinguished chemists who are proud to acknowledge their association with the Ramsay Memorial Trust.

The Royal Sanitary Institute: Dr. J. W. Dudley Robinson

At a luncheon given in his honour on October 14, Dr. J. W. Dudley Robinson, who will be retiring at the end of this year, was presented with an inscribed silver rose-bowl and a cheque on behalf of the Fellows, Members and Associates of the Royal Sanitary Institute as a token of their appreciation of his valued service as secretary of the Institute since 1928. Dr. Robinson has also been secretary of the Royal Sanitary Institute and Sanitary Inspectors Examination Joint Board since 1928 and of the National Nursery Examination Board since its formation in 1945. Since he went to the Institute from the secretaryship of the Institution of Municipal Engineers, he has been responsible for much of the former's successful development. In addition to organizing the annual health congresses of the Royal Sanitary Institute, which are attended by upwards of two thousand delegates, he has also arranged a number of special conferences, notably on the Midwives Act in 1936, and on the administration of the Milk (Special Designations) Order in the same year. During his service with the Royal Sanitary Institute, Dr. Robinson has been responsible for its examination system under which some sixty-eight thousand candidates have been examined. In the same period, the membership of the Institute has increased from 4,700 to well over 9,500. In 1950 he was appointed an officer of the Ordre de la Santé Publique by the President of the French Republic.

New Fellowships in Microbiological Biochemistry at Oxford

THE University of Oxford has been able to establish three research fellowships in microbiological bio-