(1) Complete hydrolysis of glycerides to fatty acids and glycerol is not an obligatory step in the process of fat absorption.

(2) Lipids do not have to be brought into water-soluble form before they can be removed from the small intestinal lumen.

(3) Eventual partition of the lipid molecules between the oil and the water phase may affect their distribution in the body after absorption.

These three basic tenets have been strongly supported by studies involving the use of isotope-labelled materials and other techniques that were not available when the hypothesis was originally formulated. The other available facts about fat absorption—such as the effect of bile salts, the mechanism and significance of intraluminal emulsification, phospholipid formation, the metabolic activity in the intestinal cells and the differential absorption of lipid-soluble molecules—can be fitted into the general framework of this partition hypothesis.

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OBITUARIES

Dr. R. C. Wallace

SCOTLAND has given many of her sons to Canada, but few, if any, have contributed as much to Canadian life as Robert Charles Wallace, who died at his home in Kingston, Ontario, on January 28, at the age of seventy-three. Recognized for many years as the doyen of Canadian vice-chancellors, he took an active part in the educational, cultural and scientific life of the Dominion. A native of the Orkneys, at the age of twenty-nine, after a university training which included undergraduate and graduate study at Edinburgh, where during 1909-10 he held an 1851 Exhibition Scholarship and was a Carnegie Fellow, a year as a demonstrator at St. Andrews, and a period in Göttingen, where he obtained his Ph.D., he went to Canada in 1910. He joined the staff of the University of Manitoba as a lecturer in geology, and after two years was made head of the Department of Geology and Mineralogy. During his Manitoba period he was Commissioner of Northern Manitoba during 1918-21 and Commissioner of Mines and Natural Resources for Manitoba during 1926-28. By 1928 the marked gifts he had shown as scientist, writer, speaker, administrator and educational leader led to his appointment in that year as second president of the University of Alberta. This post he held until 1936, when he was appointed principal and vice-chancellor of Queen's University, Kingston, Ontario. In this position he remained until his retirement in 1951.

While at Alberta and at Queen's, he combined his duties as vice-chancellor with many activities. At various times he was chairman of the Research Council of Alberta; a member of the National Research Council of Canada; chairman of the Ontario Research Commission; president of the Royal Society of Canada, of the Canadian Institute of Mining and Metallurgy, and of the Association of Canadian Clubs. He was a Fellow of the Geological Society of America, of the Mineralogy Society of America, and of the Society of Economic Geology. Towards the end of the Second World War he took an active part in the proceedings of a Federal Government Committee which led to the publication of the Wallace report on the conservation and development of Canada's natural resources. He played an important part in the founding of Unesco, being one of the original three Canadian delegates. In New York his counsel was sought and welcomed by the Carnegie Corporation.

With such a record it is not surprising that he was given honorary degrees by as many as twenty universities, among them his *Alma Mater* Edinburgh, Oxford, the Queen's University, Belfast, and Harvard.

After retirement, Wallace continued to be active until within a few months of his death. Among other things, he was an executive director of the Arctic Institute of North America, adviser to the Ontario Government on university grants, a member of the Defence Research Board of Canada, and Canadian advisory editor of the "Encyclopaedia Americana".

At Queen's, under his guidance, apart from a big increase in physical assets, such as new buildings, and the founding of such new teaching 'schools' as nursing, industrial relations and local government, there was a marked increase in research in science

and in medicine, and in the humanities high scholarship was stimulated. In making new appointments, although he insisted on high professional qualifications, he sought also men of character and culture, believing, to quote his own words, that "no teachers can conceal their characters and outlook on life from a class".

Unbending as granite where ethical principles were concerned, Wallace listened gladly to views opposed to his own and was kind to people in all walks of life. His office door was open, literally and metaphorically, to members of staff and students alike. Like most Scots, he made no outward display of the sentiment which lay below the surface. But only a few months before his death, on the occasion of the centenary of *The Orcadian*, he wrote with feeling of "scenes of cliff and sea and sky" and of "that indescribably soft ethereal light at or near midnight on summer's longest days in the Orkneys", things which were caught "indelibly in memory".

He is survived by his wife, Elizabeth Smith, also a native of the Orkneys, whose graciousness and natural charm added greatly to the warm welcome given the many who went to the principal's residence on Queen's University grounds. Three daughters, Mrs. D. E. Woodsworth, Mrs. H. W. Addington and Mrs. Charles Baugh, also survive. A son, Ronald, died in 1936.

J. K. ROBERTSON

Mr. G. W. Grabham, O.B.E.

GEORGE WALTER GRABHAM was born in 1882 in Madeira, where his father, Dr. Michael Grabham, was a well-known resident. Educated at University College School and at St. John's College, Cambridge, he joined the Geological Survey of Great Britain in 1903 and worked in Scotland until 1906. He then followed T. Barron as Government geologist in the Anglo-Egyptian Sudan. There, throughout his service, he travelled widely, on foot and by river, with camels and with both early and modern motor transport. He was mainly concerned with the most vital need—water; and in his journeys and special investigations he gathered a unique knowledge of the geology of the country. By far the greater part of his work is represented by unpublished reports in the Geological Survey office in Khartoum. He was also closely interested in the people's agricultural and other pursuits, past and present, and was acting conservator of antiquities.

Outside the Sudan he made extensive journeys, about which little was heard, in inter-tropical Africa; he was best known for his official mission to Lake Tana (with R. P. Black, 1920–21).

Grabham retired from the Geological Survey of the Sudan in 1934, but was retained as geological adviser until 1939. After the Second World War he wintered in the Sudan, maintaining vigorously his many and varied personal interests.

In Madeira he inherited his father's house, where his affection for the island, and all that it implied for him, was widely known. To the end he made exacting walks in that land of profound cliffs and gorges. Here, as in the Sudan, he took unflagging pleasure in showing others the country, either on the ground or with the aid of his vast collection of photographs and lantern slides; his hospitality was proverbial.

He was a familiar figure at international geological congresses, and on their long field excursions,

in many parts of the world, and for many years his annual visit to Britain coincided with the meeting of the British Association, at which he enjoyed meeting his friends; latterly he came to his clubs in London twice a year, and made a tour of his diminishing circle of relatives and close associates.

To many, Grabham seemed a lonely man, but he delighted in company; a rather forbidding figure, but he had an inexhaustible fund of humour; of his sympathy and kindness the sum will never be told. His end was as he would probably have wished; he was about to lecture to a cultural meeting in Khartoum, but, feeling unwell, took his leave and bicycled home to his house in Burri Village, where he was found dead the following morning. So passes a great figure.

K. S. SANDFORD

Dr. W. M. Ware

FORMER colleagues have experienced a deep sense of loss following the sudden death, on February 15, of William Melville Ware at the age of sixty-two. Particularly has the loss been felt by many present and past members of Wye College (University of London), for it was there that all his scientific work was done.

Ware entered Wye College in 1911 as a student, after receiving a grounding in the classics at Dover College, followed by a period in an academy at Le Havre, where he attained fluency in French. During the First World War he was on active service with the Army and on demobilization returned to Wye as a lecturer in botany. Research, however, was his *métier*; while still a lecturer he investigated problems of clover with a grant from the Ministry of Agriculture, and this led to the publication of several papers on the subject and on certain diseases of other plants.

In 1923 he accepted an invitation to join the Mycology Department (Research and Advisory) under the direction of Prof. E. S. Salmon. For the next twenty-three years his investigations formed a major stimulus to the growth of the young science of plant pathology.

His main researches were on diseases of fruit, hops and mushrooms; but other horticultural and agricultural crops also received attention, and about a hundred original papers of high quality appeared under his name, either alone or jointly with colleagues. His researches into apple scab (*Venturia inaequalis* (Cooke) Wint.) and hop downy mildew (*Pseudoperonospora humuli* (Miyabe and Tak) G. W. Wilson) are particularly outstanding, while his observations on the cultivated mushroom led not only to the discovery of crop-reducing diseases, but also to the writing of a bulletin on mushroom-growing for the Ministry of Agriculture. Following his first degree of B.Sc. (Agric.), he was awarded the M.Sc. in 1923 and the D.Sc. in 1935.

Ware followed Prof. Salmon as head of the Mycology Department at Wye in 1937, and directed research and advisory work through the difficult war years; but the decision to absorb the Department into the Civil Service prompted his retirement in October 1946.

Ware served on the Council of the Association of Applied Biologists and as a member of the Plant Pathology Committee of the British Mycological Society; but his distaste for committee work debarred him from seeking office in the learned societies. His contributions to science are familiar to