

PHYSIOLOGICAL EXPEDITION TO THE ANTARCTIC

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AN Anglo-American Physiological Expedition will be leaving shortly for the Antarctic to carry out studies connected with human acclimatization to cold. The party will assemble in California at the end of November and travel from there via New Zealand to Ross Island at the edge of the Antarctic Continent. They will be taking part in Operation Deep Freeze II of the International Geophysical Year.

The party is being transported by air under arrangements made by the Office of Naval Research, U.S. Navy, and by the United States Military Air Transport. In this way the team hopes to accomplish a programme in four months, which would otherwise require wintering in the Antarctic and four months travelling.

In spite of common experience that one grows accustomed to cold, as well as anthropological testimony, very little objective evidence in support of cold acclimatization has so far been found. Studies have hitherto been hampered by lack of methods for measuring metabolism and changes in body temperature continuously over periods of days at a time.

Major J. M. Adam, R.A.M.C., and the author, whose participation has been made possible by a generous grant from the Wellcome Trust, will be carrying out studies of this nature on themselves and on members of other expeditions already in the Antarctic. They will use apparatus developed by Mr. H. S. Wolff at the Medical Research Council's Division of Human Physiology at Hampstead, which will enable them to obtain prolonged records of the kind required. Samples of blood plasma will also be collected for lipid analysis.

It is well known that the fatty composition of the blood and tissue lipids of hibernating animals during winter is different from that during summer. The differences are such that the degree of unsaturation of the fatty acids of the lipids is higher, and the melting point lower, in winter than in summer. A preliminary investigation of the blood lipids of persons exposed to intense cold during the British North Greenland Expedition was carried out by Dr. J. E. Lovelock, of the National Institute for Medical Research, Mill Hill. The results suggested that similar changes to those found with hibernating animals may occur in

the blood lipids of human beings. Dr. Lovelock will continue his studies on the samples of blood plasma brought back from the Antarctic.

A further reason for interest in the problem of blood lipids is the finding that the fatty-acid composition of the plasma lipids of patients with coronary artery disease has shown differences between them and normal subjects similar to those observed in the winter on the Greenland expedition. This similarity could imply that the regional and social differences in the incidence of coronary artery disease may be as much a consequence of environment as of diet.

The American members of the expedition, led by Dr. Nello Pace, of the University of California, are interested primarily in physiological reactions to stress. The pattern of adrenal cortical response to varying stresses has already been studied by this group on front-line combatants in the Korean War as well as in other stress situations. Surgeon-Commander Miller, of the United States Navy, will be studying the epidemiology of upper respiratory infections among personnel in the Antarctic bases on Ross Island. Antarctic personnel are said to remain almost entirely free of colds, except following the arrival of ships or on opening packing cases and mail. In ordinary communities this mode of infection, namely by contact with contaminated objects, is thought to be unusual, at least as regards the common cold virus.

Some of the expedition's equipment was recently on view at the Medical Research Council's Laboratories at Hampstead. It included sledging rations incorporating a variety of new dehydrated meats and other foods, packaged entirely in plastic bags, thus avoiding the use of tins. The cooking equipment employs propane in place of paraffin, and is claimed to give nearly 80 per cent heating efficiency compared with 40 per cent for the conventional paraffin stoves used previously. Also on view were newly designed sledges and various types of protective clothing and other equipment. It was pointed out that this expedition could afford to be more experimental in its approach to problems of equipment than other expeditions, because it will not be called on to move more than two hundred miles from a well-equipped base.

OBITUARIES

Prof. G. H. Wooldridge

GEORGE HENRY WOOLDRIDGE, emeritus professor of veterinary medicine and the doyen of the Royal Veterinary College, died on August 30 following an operation; he was eighty years of age. For some years a gradual failure of his eyesight had caused him to retire from active participation in the work of the many bodies and societies which he had served so well for many years, and to relinquish his consultation practice in which his services had been in great demand. Mentally and physically he remained

in good health, and the illness which caused his death was of a relatively short duration.

He was born at Stoke-on-Trent and was very proud to be a Staffordshire man. He was educated at St. Peter's School at Stoke and at Orme Boys' School, Newcastle-under-Lyme. After serving as junior assistant at E.M. School at Newcastle-under-Lyme (1892-93) he decided to enter the veterinary profession. As was the custom in those days, he was placed as pupil with J. Wilson, of Nantwich, in 1893, before entering the Royal Veterinary College in 1895.

He graduated M.R.C.V.S. in July 1899, gaining first-class honours in the final examination, and he obtained the fellowship of the College in December 1905.

Wooldridge's undergraduate career was one of exceptional merit. He was medallist in biology, chemistry, anatomy, surgery and medicine, and he also won the coveted Coleman Prize and Centenary Medal. After graduation he served for a year as tutor at the Royal Veterinary College. In 1900 he went to the Royal Agricultural College at Cirencester as professor of veterinary science and bacteriology. In 1903 he was appointed professor of veterinary medicine in the Royal Veterinary College of Ireland. He returned to Camden Town in 1908, becoming professor of materia medica and therapeutics in the Royal Veterinary College and with charge of the out-patients department. In 1912 he was translated to the senior post in the Department of Medicine and continued in that chair until his retirement in 1943. He became vice-principal of the College in 1936, and on his retirement he was honoured by being elected *omniritus* professor of veterinary medicine.

His professional life was in the academic sphere, but he took a great and active interest in all matters appertaining to veterinary science. He served as president of the Central Veterinary Society, the National Veterinary Medical Association (now called the British Veterinary Association), the Royal College of Veterinary Surgeons and the Comparative Medicine Section of the Royal Society of Medicine. He was a vice-president of the Research Defence Society. He served on the council of the Royal Sanitary Institute, where his interest in the hygienic production of food products of animal origin had full scope. He was also honorary veterinary surgeon to the Zoological Society of London for many years. He acted as examiner in medicine, hygiene and meat inspection for several academic and professional bodies. He was joint editor of the *Veterinary Journal* during 1906-14 and he contributed many papers to veterinary literature. In this manner his magnum opus was the two-volume "Encyclopædia of Veterinary Medicine". Many sections of this work came from his own pen.

Wooldridge enjoyed teaching and his contact with students. He entered vigorously into every sphere of college life—sporting, social and academic. He was honoured by his profession on many occasions. The Royal College of Veterinary Surgeons gave him the greatest honour within its power, the Steele Memorial Medal, and the Central Veterinary Society did likewise by the award of its Victory Medal and honorary fellowship. One of the greatest interests of his life and also of Mrs. Wooldridge, his helpmate for fifty years, was their work for the Victoria Veterinary Benevolent Fund. Many who have fallen on bad times have had cause to thank this kindly man and his gentle wife.

J. McCUNN

Mr. Leo Bagrow

LEO BAGROW, who died at The Hague on August 9 at the age of seventy-six, was a commanding figure among students of the history of cartography. A scholar with fire in his belly, he possessed outstanding qualities of enthusiasm, determination and thoroughness. These enabled him to pursue his chosen subject continuously for more than half a century and in spite of interruptions caused by the two major

political convulsions of our time, in which he was unwillingly involved.

After completing his education in St. Petersburg, Bagrow served, before and during the First World War, in the Russian Imperial Navy, mainly as a hydrographer. Surveys in the Caspian Sea and Gulf of Finland were followed by expeditions to various parts of Siberia and to Kamchatka and by visits to Japan. He was already an ardent collector of early maps, particularly of Asiatic Russia and the Far East, and his first studies were published between 1912 and 1917.

After the Revolution, Bagrow and his wife emigrated in November 1918 to Berlin. Between the wars, missions for commercial firms gave him ample opportunities to continue his search for early maps; he travelled throughout Europe and in Asia, Africa and North America. An extensive knowledge of European libraries is revealed in his invaluable bio-bibliographical studies of sixteenth-century cartographers ("A. Ortelii catalogus cartographorum", 1928-30). In 1935 he founded "Imago Mundi: a Review of Early Cartography"; this annual, of which Nos. 1-3 had appeared by 1939, has provided a vehicle for much of the best work in this field by Bagrow and others. At the same time he initiated a series of facsimiles of early maps entitled "Anecdota Cartographica".

In 1945 a Swedish aircraft carried Bagrow, his wife and their tame sparrow from Berlin to Stockholm, where with stubborn courage he resumed his scientific activity in spite of increasing deafness and the loss of his records and part of his collections. The publication of "Imago Mundi" was recommenced, and ten issues (4-13, 1947-56) were produced with the help of subsidies from Swedish cultural foundations. Other notable post-war works by Bagrow include his essay, "The Origin of Ptolemy's Geographia" (Stockholm, 1945); his "Geschichte der Kartographie" (Berlin, 1951); and three parts of "Anecdota Cartographica" (1948-53). At his death he had completed, and was preparing for publication in English, several important works, including a history of Russian cartography. Bagrow's valuable collection of early maps of Russia was acquired in 1956 by the Houghton Library of Harvard College.

Those who worked long with Leo Bagrow learnt that behind a peremptory temper and formidable obstinacy lay warm human sympathies and a strong and genial humour.

R. A. SKELTON

Mr. James Kendall

ALL Jim Kendall's acquaintances, colleagues and friends must have been shocked to hear of his sudden and untimely death on August 24. It is true that he worked hard and played hard, but one would have said he was at the full height of his powers and in a position in the engineering industry for which he was well suited and where he would increasingly extend his influence.

His contribution to the development of nuclear energy in Britain has been considerable, but is not well known. He was responsible for the design and construction of the BEPO pile at Harwell, and for the first production piles at Windscale. These were built at a time when development facilities were limited and naturally are solid, conservative conceptions. How different they are from Kendall's last work with the Atomic Energy Authority, which was