

HONORARY GRADUATE

Alexander Robert Pettigrew Walker

Alexander Robert Pettigrew Walker was born in Scotland. He obtained his Master's degree in organic chemistry at the University of Bristol in 1937. In 1938 he emigrated to Southern Africa as a science master at St George's College, Salisbury, Southern Rhodesia. The next year he worked as an analytical chemist in the Public Health Laboratory of the Johannesburg Municipality. There, during the Second World War, at the request of the National Nutrition Council, he conducted research on the nutritional value of wartime standard brown bread, carrying out long-term balance studies on white and black subjects. In 1946 he joined the South African Institute for Medical Research and became head of the Nutrition Unit of the Council for Scientific and Industrial Research. This was the beginning of a lifelong research career involving dietary, biochemical, haematological and other studies on population groups affected by diseases of under-nutrition and malnutrition, as well as those associated with prosperity.

Dr Walker obtained his PhD degree in 1948 and DSc degree in 1965 at the University of Cape Town, for work based on nutritional studies involving the mineral metabolism of calcium and iron in black children and adults.

Perhaps the greatest contribution Dr Walker has made during his long and illustrious career as a researcher has been his dietary studies in relation to the occurrence of various disorders and diseases. He was the first, in 1953, to put forward the hypothesis that when the intake of dietary fibre, that is, the intake of plant foods, is high, prevalences of Western diseases (including appendicitis, colon cancer, diabetes and coronary heart disease) are low, and vice versa. In this field he had a long and rewarding association with the famous Dr Denis Burkitt, with whom he published several joint papers.

He was the first to show that iron overload in sub-Saharan blacks is primarily the result of an extremely high iron intake, originating from containers used, especially in the preparation of fermented beverages.

Dr Walker has been prominent in examining the bearing of a low calcium intake on health and disease. In 1962 he became a member of a World Health Organisation/Food and Agriculture Organisation of the United Nations Expert Committee on Calcium Requirements. Dr Walker's researches included determining calcium concentration in breast milk and in human bones, as well as the element's relevance to the very low proneness of black women to hip fracture. He concluded that a habitually low intake of the element, as prevails in most developing populations, is not prejudicial to good health. He has carried out similar studies in relation to sugar in human nutrition, showing, in this case, that the very adverse roles popularly accorded to sugar in promoting dental caries, obesity and diabetes are not borne out by observations made either locally or abroad.

Dr Walker's interest in changing patterns of cancer, particularly those which are diet related, has led to his carrying out and publishing case-control studies on cancers of the colon, breast, prostate and cervix in order to highlight risk factors.

The international involvement and leadership role of Dr Walker have been acknowledged by many awards, citations and medals. These include a gold medal for services to 'Science, Medicine and the Art of Healing', presented at a Fibre Symposium held in Washington in 1988; a Farma Food International Fibre Award in 1989, in Copenhagen, Denmark; and in 1993 an International Union of Nutritional Sciences Fellowship awarded in Adelaide, Australia. Other honours include a gold medal from the South African Medical Research Council in 1992 for meritorious service in the field of diet, health and disease. In 1997 he received a 75th Jubilee Award from the Faculty of Health Sciences of this university. When a *Festschrift* was published

in his honour in 1994 by the *South African Medical Journal* to coincide with his eightieth birthday, eleven of the twenty-five contributors were from abroad.

The extraordinary volume of Dr Walker's research is reflected in more than 750 publications, many of them articles in leading international journals.

Dr Walker's excellence as a researcher and his encyclopaedic knowledge of the field of nutrition and nutrition-related diseases are widely recognised. His searching review articles and editorials are both influential and of great educational value. His commitment to science and independent thought is evidenced by the regularity with which his research and advocacy challenge conventional wisdom.

At a personal level Dr Walker is known for his modesty and approachability. These personality traits and his politeness at all times define him as a gentleman in the truest sense of the word. As examples of his relationship with people, there are the lasting friendships he has formed with school teachers, principals, and other leaders in rural African communities who have assisted him with his research surveys over many years. The loyalty of his research team, and that of his wife, who is a researcher in her own right and who is always there to support him, further attest to the superb qualities of this modest, gentle and most diligent man.

In recognition of his distinguished career in the field of nutritional research, the University takes great pleasure in honouring Alexander Robert Pettigrew Walker with its highest accolade, the degree of Doctor of Science in Medicine *honoris causa*.