

CITATION ON
PROFESSOR RICHARD DARWIN KEYNES CBE
ON HIS CONFERMENT OF
THE HONORARY DOCTOR OF SCIENCE (D.Sc.)
OF THE
UNIVERSITY OF NAIROBI
AT
NAIROBI, KENYA
ON
29TH NOVEMBER, 1999



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EAST AFRICANA COLLECTION

Citation on

Professor Richard Darwin Keynes

CBE, BA, MA, PhD, Drhc, FRS

Professor Richard Darwin Keynes was born in 1919, from the union of two great Cambridge families – the Keynes and the Darwins. He graduated from Trinity College with a first class honours degree in Natural Sciences Tripos Part II Physiology in 1946, having had his University studies interrupted by the 2nd World War. During the war he served as a temporary Experimental Officer for His Majesty Anti-Submarine Experimental Establishment and the Admiralty Signals Establishment between 1940–1945.

Prof. Keynes' education was marked by a series of scholarships and prizes. He was both a scholar at Oundle School and Trinity College. While at Cambridge University, he won the following prizes; the Sir Michael Foster and G.H. Lewes Studentship in 1946; Gedge prize 1948; and the Rolleston Memorial Prize 1950.

After the war he immediately launched into research, choosing the field in which he was going to make such major contributions throughout his career – namely, the biophysics of nerve conduction. He obtained his Doctor of Philosophy in 1949 under the supervision of the Nobel Laureate Professor Sir Alan Hodgkin.

His long and distinguished research career began immediately with his appointment to the Department of Physiology, Cambridge, from 1949 to 1960. At first he was associated with Trinity College Cambridge as a

Junior Research Fellow, a post he held until 1952 when he moved to a Fellowship at Peterhouse, Cambridge. In 1960 he moved to the Agricultural Research Council Institute of Animal Physiology at Babraham, Cambridge, as Deputy Director and Head of the Physiology Department, becoming Director of the Institute in 1965 – a post he held until 1973. In 1961 Churchill College was opened, with its particular interest in the sciences, and Professor Keynes was a Founding Fellow, a position he has retained ever since. From 1963 – 1978 he was a Fellow of Eton and in 1988 he was elected an Honorary Fellow of Peterhouse.

In 1973 he returned to his old Department at Cambridge, with his appointment to the Chair and Headship in the Department of Physiology. He is now Professor Emeritus, at the Physiological Laboratory.

Throughout his research career he has been concerned with the ways in which Electro-physiological functions are utilized by organisms, and has played a major role in elucidating our understanding of these complex processes. Perhaps his best known contributions have been in the field of nerve conduction, where he has made major contributions to our understanding of the way in which nerve impulses are transmitted. However, his early interest in this field has naturally expanded to a wide interest in the general problems of membrane and multicellular structures. This has led him into elucidating the biophysical processes of muscle contraction, and the electric organs possessed by organisms such as the electric eel and certain fishes. Electrophysiological processes are fundamental to a very wide range of functions, and in addition to those mentioned he has also been concerned with the transport of metabolites across the rumenal wall. It was for his findings in these areas that he was awarded a Doctor of Science (DSc.) in 1965 by Cambridge University. By no means have his concerns been confined to the laboratory, he has also been much involved with international developments in science. Naturally this started with his prime field of interest with the International Union for Pure and Applied Biophysics, in which his contributions have included being Secretary General (1972 – 78), Vice-Presi-

dent (1978 – 1981) and President (1981 – 1984). In addition to this he has been deeply involved with the International Council of Scientific Union, for which he has been Chairman of the Finance Committee since 1976 and of the Steering Committee (with UNESCO) of the International Biosciences Network, since 1980. Chairman, (1982 – 1993). The International Cell Research Organization has also benefited from his Chairmanship of the Council (1980 – 1983). In 1981, along with some African Scientists, Professor Keynes was responsible for initiating and launching the African Biosciences Network, which is now well established. In his capacity as Chairman of the International Biosciences Network, Professor Keynes has remained a patron and close supporter of the African Biosciences Network.

Professor Keynes first visited Kenya in 1976 as an Inter University Council/British Council Visiting Professor in the Department of Animal Physiology, University of Nairobi. During this visit he gave one public lecture as well as lectures on nerve conduction to veterinary undergraduate students. Professor Keynes has trained Kenyan scientists in Cambridge. In 1972, Professor Keynes jointly with Dr. John Bligh supervised research on sweat glands function and evaporative cooling in ungulates following heat exposure by Prof. Geoffrey Maloiy in Cambridge.

Professor Keynes also visited Kenya on behalf of the Royal Swedish Academy, early in 1980 to review the neurophysiological research activities carried out by the International Centre for Insect Physiology and Ecology (ICIPE). In December 1986, along with Professor Eric Edroma and Professor Geoffrey Maloiy, Professor Keynes organized a symposium on African Wildlife in Kampala, Uganda.

Recognition of these remarkable contributions to science came at an early stage: first with his election as Fellow of the Royal Society in 1959, thus becoming one of the youngest members of this most prestigious scientific Society. This was shortly followed by his Vice-Presidency of the Society from 1965 to 1968, and his appointment as Croonian

Lecturer in 1983. In 1968 he was awarded a Doctorate *honoris causa* of the University of Brazil, having been a Visiting Reader in Biophysics since 1951. In 1995 the University of Rouen, France similarly awarded him a Doctorate *honoris causa*.

A number of foreign scientific bodies have recognized his outstanding contributions, among them the Royal Danish Academy, the American Philosophical Society, and the American Academy of Arts and Sciences, and the Brazilian Academy of Sciences which made him a Foreign Member. In 1984, Her Majesty Queen Elizabeth II recognized his work with the award of the Commander of the British Empire (CBE). And in 1997 he was awarded the Brazilian National Scientific Order of Merit. In 1993 and 1994 he was elected an Honorary Member of the U.K. and American Physiological Societies.

As expected, a scientific career on this scale has been accompanied by extensive publications, with some 180 in a wide range of international journals and books.

It is this very distinguished Physiologist who has made such a contribution to our understanding of Electro-physiological processes and to international science, that the University of Nairobi would like to honour by conferring on him the degree of Doctor of Science *Honoris Causa*.