

HONORARY GRADUATE

CHARLES KIMBERLIN BRAIN

Dr Charles Kimberlin Brain was born on 7 May 1931 in Harare, Zimbabwe. He matriculated at Pretoria Boys' High School in 1947, before proceeding to the University of Cape Town where he obtained his Bachelor of Science degree.

After a short spell as a geologist with the National Building Research Institute at the CSIR, Dr Brain joined the staff of the Transvaal Museum in 1954 as a Research Associate in the Palaeontology Department and in 1957 was appointed to the position of Curator in the Department of Lower Vertebrates. In the same year he was awarded the degree of Doctor of Philosophy from the University of Cape Town.

While curator of Lower Vertebrates at the Transvaal Museum, Dr Brain worked closely with Dr Vivian Fitzsimons, the noted South African herpetologist, in completing a major book, *The Snakes of South Africa*. One of the highlights of this period of his research career was in demonstrating that behaviour patterns of certain reptile species could be used as taxonomic criteria in the same way as morphological features are used.

From 1961-1964 Dr Brain was Keeper of Zoology and Deputy Director of the newly-built Queen Victoria Museum in Harare. During this time he undertook pioneering comparative behavioural research on vervet and samango monkeys and was responsible for the planning and installation of the zoological display at this museum.

He returned to the Transvaal Museum in 1965 to take up the post of Curator in the Department of Palaeontology, and in 1968 became Director of the museum, a position he held for twenty-three years until his retirement in 1991. Over a period of twenty-one years Dr Brain undertook extensive investigations at the Swartkrans fossil hominid cave. At the same time he also studied the feeding behaviour of various carnivores, especially cheetahs, in order to establish the ways in which fossil bone-accumulations occurred in cave deposits. This research led directly to the new discipline of African cave taphonomy, which allows reliable reconstructions to be made of early hominid and other animal behaviour, and in which Dr Brain has established himself as an international leader. In the process of data gathering, he undertook a study of the bony food remains of early inhabitants in the Namib Desert. This necessitated gathering every bone fragment lying around 15 villages. Because the skeletal representation from these accumulations were the same as in the fossil samples, Dr Brain was able to deduce that only those skeletal parts were preserved which were robust enough to survive the feeding activities of humans and carnivores.

The Swartkrans excavation produced hundreds of hominid remains, thousands of faunal fossils and stone and bone artifacts. Meticulous analysis of these finds, which has received international acclaim, produced the most detailed information available on the fauna of this part of Africa. Of particular significance were his findings relating to the cultural status of hominids at this time (1.8 to 1 million years ago), as well as information on the importance of predation in early hominid life. One of the most dramatic findings during the later years of the Swartkrans excavation was the discovery of the earliest evidence for the controlled use of fire by hominids dating to about one million years ago. From this thorough work at the Swartkrans site Dr Brain was able to identify cycles of deposition within the Quaternary period. He linked habitat changes to global variability

in temperature and correlated these, for the first time, with hominid evolutionary events in Africa. For the results of this multi-faceted research Dr Brain was awarded a Doctor of Science degree by the University of the Witwatersrand in 1981.

During his term as Director of the Transvaal Museum, Dr Brain gave particular attention to the areas of research, display and interpersonal relations, and established the Transvaal Museum as an institution with an international reputation for its research endeavours. Dr Brain has given long, loyal and distinguished service to the museum profession, has served on the Council of the Southern African Museums' Association for many years and has been its President for two terms.

Since 1991, Dr Brain has shifted his research interest to invertebrates, notably the micro-invertebrates, and paying particular attention to the fauna of saline and temporary water bodies in the arid western regions of South Africa. Even more recently he has undertaken pioneering work in the search for ancestral micro-invertebrate fossils in limestones of the Late Precambrian Nama Group. Recognising the importance of predation to the evolution of animal sense organs and intelligence, Dr Brain is currently investigating the roots of predation in these very early animal communities.

Dr Brain has more than 150 publications and several books to his name, and he is acknowledged as one of the foremost naturalists Africa has produced.

Through the years Dr Brain has served on numerous advisory committees of the University and is currently a Research Associate of the Bernard Price Institute for Palaeontological Research, and Honorary Professor of Zoology.

The university takes great pride and pleasure in awarding Charles Kimberlin Brain its highest honour, the degree of Doctor of Science, *honoris causa*.