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ALUN RHUN HUGHES: A TRIBUTE AFTER FORTY FOUR YEARS OF COMPANIONSHIP IN ANATOMY AND ANTHROPOLOGY

by

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The Anatomy Department at the Wits Medical School has been blessed by many fine and long-serving staff members during the 72 years that have elapsed since its inception. A number of these true and faithful servants have given thirty or more years of service to the Anatomy Department. As far as I can trace only two people have served this Department for forty or more years: one is Alun Rhun Hughes and the other, myself, a fact commemorated in the title of this tribute.

By the time this *Festschrift* is scheduled to appear, at the celebration of Alun Hughes's 75th birthday on 16 July 1991, it will be a shade over forty-four years and two months since he started working under Professor R.A. Dart, in the Department of Anatomy. In this respect, too, Hughes has been one of a very small group of record holders: for I know of no other staff member who has remained on the payroll of the University up to so advanced an age, save for the late Dr. A.O.D. ("Bertie") Mogg in our Department of Botany, the late Professor H.H. Paine in the Department of Physics, and Mr. E.L. ("Eddie") Huddle, of the University's senior administrative staff.

What manner of man is this, who can serve with such perseverance, such loyalty, such patience, for so long a span of time?

EARLY LIFE AND CAREER

In the midst of World War I, Alun Hughes was born at Anglesey, North Wales, on 16 July 1916. He received his senior schooling at Lancing College, Sussex, where he passed the Oxford and Cambridge Schools Examination Certificate with five credits and London Matriculation Exemption. He early showed sterling qualities when, at school, he was Head of his House, a Prefect, Secretary of Athletics and recipient of an *A* Certificate in the Officers' Training Corps. After commencing university studies towards the B.Sc. degree, at the University College of Southampton in 1936, he emigrated to South Africa in 1937.

Afflicted from an early age with chest trouble, he was drawn to the dry, healthy climate of the eastern Orange Free State. There he spent a year as a teacher under the Society of the Sacred Mission at Modderpoort. He taught English and Mathematics to high school pupils and to black learner-teachers. In 1938, he registered as a first year medical student at the University of the Witwatersrand. A year later, as a second year medical student, he first set foot in the Department of Anatomy, which was to be his spiritual home for over half of his life to date. Joining the South African Medical Corps in 1940, he was discharged as medically unfit in 1941. (His asthma and a tendency to severe chest infections have been lifelong ailments.)

Over the period from 1942 to 1946, while serving as a special constable with the Civic Guard, Hughes registered as a Science student at the University of the Witwatersrand. He completed courses in Botany and Geology, but did not write the final examinations owing to illness and lack of funds. In 1945, he assisted Dr. T.D. Hall and Dr. D. Meredith in their botanical research programme at the University Field Research Station, Frankenwald, under the aegis of Professor John F.V. Phillips, head of the Department of Botany.

Early in 1947, Hughes joined the administrative staff of the University, when he completed a stocktaking and costing of the various maintenance workshops with Mr. Robin Moore, at that time the University Maintenance Architect.

HUGHES IN THE ANATOMY DEPARTMENT

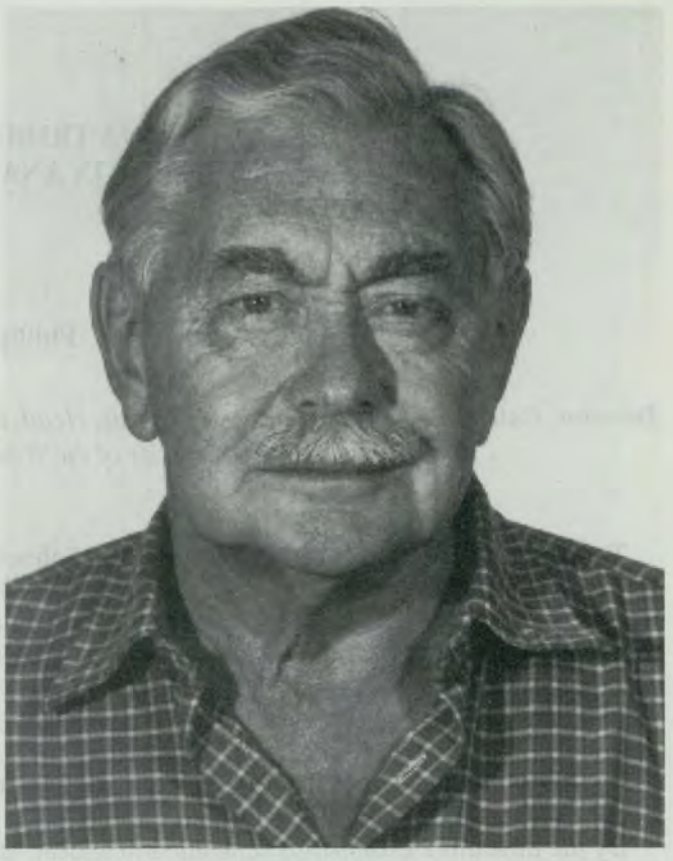
In May 1947, when he was thirty years of age, Alun Hughes became a Grade III Laboratory Assistant in the Anatomy Department under Professor R.A. Dart. Thereafter, he served continuously on a full-time basis in the same Department, for nearly twelve years under Professor Dart and for 26 years with myself. He rose through the ranks, becoming Senior Technician in April 1953 in succession to Eric E. Williams. In recognition of his personal technical skills, he was promoted to the post of Special Grade Technician in January 1963 and in July 1975 he became the Anatomy Department's first Chief Technician.

During those decades he mastered many skills. In the field these comprised survey work, retrieval of specimens and excavation techniques. In the Department, he ultimately had overall charge of the entire technical team of sixteen or more persons. He provided the head of the department with invaluable help in the allocation of tasks to individual technicians, the deployment of staff on specific assignments, the supervision and training of staff, the hiring, confirmation and promotion of technical officers, the investigation and determining of the technical needs of the Department, the budget and many other managerial responsibilities. Technically, he was a brilliant photographer; he displayed consummate artistry in making drawings, graphs and other illustrations for books, research articles and chapters. He became proficient at developing fossils from their matrix, and at restoring and reconstructing hominid skulls and other skeletal parts. In his heyday, there were few around the world who could hold a candle to him in these pursuits.

Not only did he master the niceties of these difficult techniques, but he shared them willingly with all who wished to learn. He imparted his experience and his ideas freely to the numerous visitors who, from 1959 onwards, came to the Anatomy Department in ever-increasing numbers, from both the New World and the Old World. His views were considered authoritative and were quoted in many publications.

In 1948, Dart placed Hughes in charge of the Hunterian Museum. He began recataloguing and reorganising the collections, including the dissected specimens and the human skeletal collections which were then housed in the basement of the Old Medical School in Hospital Hill. Along with the late Dr. A.G. Oettlé, then a brilliant research student and staff member of the Anatomy Department, he evolved a new method for the cataloguing and storing of the Department's collections. Hughes began to acquire and build up a hoard of extant animal skeletons, essential materials for the study and identification of the Plio-Pleistocene fossils that were accumulating in the Department from the early hominid and other sites. Similarly, along with myself, he gathered, catalogued and curated casts of fossil hominids from many parts, with the result that, when these are added to those assembled by Professor Dart, the Department holds today one of the largest such collections in the world.

Alun Hughes may be regarded as a foiled academic: had circumstances – especially medical and economic – been otherwise, there is no doubt in my mind that he would have made an outstanding professor. With his logical mind, his clear and flowing writing, his teaching of generations of B.Sc. and Honours students, his ability to turn a polished memorandum, and his long list of publications and reports, Hughes went a long way towards breaking down the formerly rigid barriers between academics and technicians and he spearheaded a new phase when such distinctions are rapidly becoming obsolete.



Alun Rhun Hughes

At the end of 1984, he retired from the full-time service of the University, as he had passed his 68th birthday on 16th July 1984. Despite his legal superannuation, the Foundation for Research and Development (Scientia, Pretoria) provided my Palaeo-anthropology Research Unit with funds sufficient to retain Alun Hughes's services as a part-time Senior Research Officer in charge of Field and Laboratory Operations, for each year from 1985 to 1990, while similar funding by the Wits Research Committee has permitted an extension of this arrangement to 1991.

HUGHES IN THE UNIVERSITY

Mr Hughes's outstanding administrative and organisational skills were recognised by his peers when, in 1954, he was elected as the Medical School representative on the Executive Committee of the Technicians and Maintenance Staff Association of the University. He served for an unprecedented 21 years (1960-1981) as the Chairman of that Association. His competency as spokesman and his ability to produce a carefully worded, persuasive and logical memorandum stood him in excellent stead in overtures to the University authorities – sometimes grievances complained of, more often constructive proposals for the amelioration of conditions. I am able to testify to his impeccable and somewhat "laid-back" manner when he presided over the annual banquet of the

Association, at one time when I was the guest speaker. He did the honours of the occasion with style!

HUGHES AND MAKAPANSGAT

Alun Hughes's interest in digging up the past started when he was only 18 years old: at that time he helped excavate burials in the chalk of the Sussex Downs in England. Soon after his arrival in South Africa, he assisted J. Eddols in collecting artefacts and in locating rock paintings at Modderpoort, Orange Free State, as well as at Maseru and Leribe in Lesotho. These specimens later became part of the type collection of what came to be called for a time the "Modderpoort Culture", at the hands of Mr. B.D. ("Berry") Malan, the successor to Professor C. van Riet Lowe as Director of the South African Archaeological Survey.

In 1948, Professor R.A. Dart placed Hughes in charge of field operations at the Makapansgat Limeworks in the northern Transvaal. From that time, for more than a dozen years, Hughes spent periods at Makapansgat ranging from several weeks up to six months at a time. With the generous help of the University, the C.S.I.R. and the Leighton Wilkie Foundation of Des Plaines, Illinois, Dart made it possible for Hughes to hire workers from the local populace. At some periods, Hughes had up to 40 assistants in the field. His systematic sorting of the limeworks dumps over the years 1948 to 1960 was a monumental labour. During this time he completed the first survey of the Limeworks, the quarry excavations and the surrounding area. He personally discovered eleven of the fossil hominids entombed in the calcified cave earth of the Makapansgat Formation: these were called by Dart *Australopithecus prometheus*, but today they are assigned to *Australopithecus africanus transvaalensis*. Moreover, Hughes recognised the first coprolites in the deposit and made a study of them (1964). Apart from the hominid specimens, he recovered many tens of thousands of fossil bones of animals that lived at the same time as *A. africanus*.

It later became known that the hominids emanated from what Professor T.C. Partridge (1979) recognised as Members 3 and 4 of the Makapansgat Formation, of late Pliocene derivation. Member 3 was dated to some 3 million years before the present. As this dating is older than any of the datings claimed for Sterkfontein, Swartkrans, Kromdraai or Taung, the Member 3 hominids found by Hughes at Makapansgat are, thus far, the oldest hominids found in southern Africa. Though these Makapansgat hominids are contemporary with some of those found at Hadar in Ethiopia, and slightly older than the famous australopithecine partial skeleton of "Lucy", East Africa has yielded some more ancient hominids, such as those from the oldest deposits at Hadar, from Laetoli in Tanzania and from Maca in Ethiopia.

Not only did Hughes show his skill in the field; in the laboratory he carried out numerous reconstructions of the australopithecines and of other fossil hominids. He played an important role in the research programme of Professor Dart, making drawings, superimpositions, reconstructions and restorations, photographs, measurements and calculations. Hughes likewise helped with the survey and excavation of the Cave of Hearths near the Makapansgat Limeworks. He developed and photographed the probably late Middle Pleistocene hominid mandible recovered there by Ben Kitching in September 1947. Hughes assisted Dart in his preliminary study (1948) and myself in the later more detailed study (1968, 1971) of that jawbone, which I assigned provisionally to *Homo sapiens rhodesiensis*, an ascription supported by F.C. Howell (1978)

HUGHES AND HYAENAS

Hughes's concern with the habits of hyaenas dates back to 1948.

World-wide interest, indignation and controversy were aroused by R.A. Dart's claims that *Australopithecus* at Makapansgat used tools of bone, tooth and horn, the basis of his "Osteodontokeratic Culture". The polemic and the counter-claims that hyaenas had damaged and amassed the enormous quantities of bones, led Dart (1956) to question "the myth of the bone-accumulating hyaena". So Hughes started to study the habits of carnivores especially of hyaenas. He excavated hyaena lairs in the Kalahari Gemsbok National Park in the northern Cape Province, at Mala Mala near the Kruger National Park, on the farm *Uitkomst* north-east of Swartkrans in the Transvaal, at Klerksdorp in the south-western Transvaal and in East Africa.

When the University of the Witwatersrand agreed in 1957 to studies on the habits of Carnivora and porcupines in the Kalahari Gemsbok National Park, Hughes became a member of the National Parks Board of Trustees Committee on Scientific Research in the Gemsbok Park. This gave him the opportunity to pursue his personal project – on the habits of Carnivora in the Gemsbok Park. It became a "pet project" when, from 1958 to 1962 Alun Hughes kept his own brown hyaena at the Johannesburg Zoo, where he meticulously recorded its habits.

By 1960, it had begun to seem to Dart and Hughes that the large-jawed spotted hyaenas in South Africa chewed bones up so thoroughly that relatively little accumulation of bones occurred in hyaena lair deposits. Thus, Dart claimed that the habits of these kinds of hyaenas could not have been responsible for the accumulation of the hundreds of thousands of largely broken bones entombed in the cave deposit of Makapansgat.

In 1957 I had begun working with Dr. L.S.B. Leakey and Dr. Mary Leakey and, after 1959, when he and she had invited me to undertake the definitive study of Olduvai hominid 5 (the type specimen of *Australopithecus (Zinjanthropus) boisei)*, I had enjoyed a close working association with them which was to last up to Louis Leakey's death in 1972. On one of my frequent visits to Nairobi, I raised with Leakey the question of the habits of hyaenas in relation to the accumulation of bones. He

pointed out that the small-jawed East African striped hyaena did not masticate bones as vigorously as Hughes had found the larger-jawed spotted hyaena did. He took me to a known striped hyaena lair in a cave just below the Kinankop Plateau, on the flank of the Eastern Rift Valley. There I saw masses of bones, many of which, on superficial inspection, showed similar damage to that seen in the fossil deposit at Makapansgat. This was so important a turn in the argument that the Leighton Wilkie Foundation gave Hughes a grant in 1961 to proceed to East Africa to study the habits of striped hyaenas.

On this visit Hughes visited the Queen Elizabeth Park and the Kisoro Gorilla Sanctuary. [At Kisoro, some years previously Dart and I had set up a Witwatersrand University Uganda Gorilla Research Unit, under the local charge of Mr. W. Baumgartel and the more remote supervision of Professor Alexander Galloway at Kampala, and of Dr. Louis Leakey at Nairobi. Jill Donisthorpe was our first field-worker and she studied the habits of the mountain gorilla on the Virunga volcanoes in south-western Uganda of which she published an account in the *South African Journal of Science* in 1958.] Whilst in East Africa Hughes excavated a Middle Stone Age site and a porcupine lair at Olorgesaillie.

As a result of his field studies, Hughes produced a number of publications including an important paper in the *American Journal of Physical Anthropology* in 1954. It now seems clear that spotted hyaenas do on occasion accumulate bones in their lairs, though the picture may be complicated by the use of the same den by porcupines or by brown hyaenas. His work constituted a significant early essay in the new discipline of taphonomy. Hughes's findings are reviewed in detail in C.K. Brain's monumental "The Hunters or the Hunted?" (1981).

HUGHES AND STERKFONTEIN

During the 1960's, after the departure of Dr. J.T. Robinson from the Transvaal Museum for the University of Wisconsin, I was repeatedly urged to begin a new excavation at Sterkfontein. As a third year "Medical B.Sc." student, I had organised and led an all-student expedition to excavate there under the aegis of Dr. Robert Broom, in April 1945. Moreover, I had taken parties of medical, dental, therapy, nursing and science students to visit and learn about Sterkfontein, in 1946 (when I and my colleagues organised a Prehistory Week at the Wits Medical School) and annually since 1951. So I was naturally drawn to the famous Sterkfontein site, from which, in August 1936, Broom had recovered the first adult australopithecine which he had made the holotype of a new genus and species, *Plesianthropus transvaalensis*. Later, at the hands of Robinson (1954), it had come to be assigned to *Australopithecus africanus transvaalensis*.

A number of reconnaissance visits were organised to the site in the middle 1960's: I was accompanied and advised by Alun Hughes, R.A. Dart, H.B.S. Cooke, A.S. Brink and, above all, R.J. Mason. Of all those who were coercing me to open a new "dig" at Sterkfontein, none was more insistent than Hughes. Our excavation at Makapansgat, which I had "inherited" from Dart in 1959, had ground to a halt and Hughes, confined for a time to the departmental laboratories, was chafing to get back to systematic field work. In 1966, having succeeded in raising generous subvention from the University and from the Council for Scientific and Industrial Research, I decided to recommence excavation at Sterkfontein. Field-work started about the centenary of the birth of R. Broom (30 November 1866). Naturally, I placed Alun Hughes in charge of operations and his delight and enthusiasm at the resumption of field work were infectious.

From December 1966 until the present – an unbroken 24 years by the end of 1990 – he has run the field excavation, five days a week, for some 48 weeks a year, with a field team of 8 to 10 persons under his direction. This makes the Sterkfontein "dig", which he has meticulously conducted, the most intensive and prolonged unbroken excavation of a single site ever undertaken. In that time, he has assisted Professor I. Watt in the topographical survey of the site, Professor T. C. Partridge (1978) in the stratigraphic and geomorphological study of the Sterkfontein Caves and Formation, the late Dr. A.O.D. Mogg in the botanical survey of the area, undertaken the fencing of the site and of dangerous sinkholes in its vicinity, run the entire field operation, and caringly looked to the welfare of the field staff. He and the field-aides have recovered masses of valuable fossils, including over 550 hominid fossils, about 4 335 baboon and monkey specimens, about 116 000 non-primate fossils, over 45 000 microfaunal fossils and some 6 000 foreign stone specimens and implements, specimens of wood and of ostrich eggshell.

Among the more spectacular finds he has made at Sterkfontein are the first skull of a member of the genus *Homo*, probably *Homo habilis*, from Member 5 (1976), the first fossil wood from the site (1982), an admirable partial skeleton of an australopithecine (1987) and an excellent, nearly complete cranium of *A. africanus* (1989).

The University of the Witwatersrand has made it possible for the excavation to be continued in 1991 and it is our hope that it will be maintained until the end of 1993, when, with my retirement from the full-time staff of the University, it is expected that the Palaeo-anthropology Research Unit will cease to operate.

With 13 years of work at Makapansgat and 24 years at Sterkfontein, Hughes is the most experienced excavator of consolidated deposits in dolomitic limestone caves in the world. Small wonder that his advice and help are often sought.

All of his studies on the sites and the fossils recovered from them were thorough, painstaking and thoughtful and they went far beyond mere technical exercises. His knowledge of, and views on, the australopithecine fossils and sites have come to be widely respected. For over thirty-five years he has conducted countless visitors from all parts of the world, including numerous specialists, and

parties of students around Makapansgat and Sterkfontein, and in his own right has become an authority on these sites.

HUGHES AND TAUNG

In 1951 Alun Hughes, along with James Kitching and myself, excavated a prehistoric cave deposit, into which the Buxton limeworkers at Taung had blasted. From this site Later Stone Age tools, a San-like calvaria and numerous, isolated, deciduous and permanent human teeth were recovered. Some 30 years later, when I began exploring the possibility of resuming excavation at or close to the site of the discovery of the type specimen of *Australopithecus africanus* in November 1924, the counsel and help of Hughes were invaluable during several reconnaissance visits to the Buxton Limeworks. When the new preliminary excavations started in 1983-1984, and the definitive programme in 1988, once again Alun Hughes's advice and assistance were made freely available to myself and to the two officers to whom the conducting of the field operations was entrusted, namely Dr. M. Toussaint (in 1988) and Dr. J.K. McKee (in 1989-1991). His help was especially valuable in our planning of the excavation at Hrdlicka's Pinnacle and he assisted McKee in positioning the extended grid over the excavation.

In September 1984, at the end of the Ancestors' Exhibition at the American Museum of Natural History in New York City, Hughes paid his first visit to the New World, expressly to bring the Taung child safely back to Johannesburg. On the same trip, he visited the Anthropology Department of the University of California at Berkeley, at the invitation of Dr. F.C. Howell.

HUGHES AND 'SPRINGBOK FLATS MAN'

The name 'Springbok Flats Man' or, as R. Broom (1929) called him, 'Bushveld Man', was applied to the fossilised human skeleton that had been found by a road-making party under Bishop-Brown in 1929, on the farm Tuinplaas (formerly Tuinplaats), near the village of Settlers on the Springbok Flats about 130km north of Pretoria. The site was examined by C. J. Swierstra, curator of the Transvaal Museum, and H. Lang (1929) and, soon afterwards, by C. van Riet Lowe (1929), who excavated and close by recovered implements ascribed to the Middle Stone Age. Then the site was to all intents and purposes 'lost' for over twenty years. Hughes and I visited the area in 1952 in an endeavour to re-locate the discovery-site – in which persuit we found reason to believe we were successful and we made a thorough examination of the site.

For forty years Alun Hughes has retained an almost obsessional love affair with the specimen, which comprised a fragmentary cranium, mandible and a nearly complete postcranial skeleton. L.H Wells (1969) would have inclined to include it in the hypodigm of *H. sapiens afer*, though F.C. Howell (1978) did not allocate the Tuinplaas skeleton to this taxon because of uncertainty about either its relative or absolute age. P. V. Tobias (1972, 1974) concluded that it may well represent an Upper Pleistocene population ancestral to both the sub-Saharan African Negro and Khoisan populations. The only indirect pointers to the age of the skeleton are the presence of (1) the extinct long-horned buffalo, *Homoioceras [Bubalus] baini*, now lumped into *Pelorovis antiquus*, close to, and at the same level as, the human skeleton; (2) an extinct large horse, named *Equus capensis* by Broom (1909), supported by Churcher (1970) and Churcher and Richardson (1978), who rejected the earlier views of L.H. Wells that *E. capensis* was inderterminable and of H.B.S. Cooke that it fell within *E. helmei*, and of which we found an isolated molar *in situ* on our 1952 excursion; and (3) Middle Stone Age implements identified by Van Riet Lowe (1929) from the locality.

Aside from Broom's original announcement of the discovery in *Nature* in 1929, and G.W.H. Schepers' description of the mandible in 1941, little work had been carried out on this interesting fossilised skeleton.

In 1950 Hughes made a reconstruction of the skull and postcranial bones and, in 1955, he and the late Dr. M.J. Toerien (then a lecturer in the Anatomy Department) published the first account of the limb bones of Springbok Flats Man. Hughes presented his new reconstruction of the Tuinplaas skeleton to the Annual Congress of the South African Association for the Advancement of Science (Cape Town, 1952) and a later revised version to the Anatomical Society of Southern Africa (Durban, 1969) and a note was published on it in the *S.A. Medical Journal* in 1970.

In 1990, once again, Hughes came back to the Tuinplaas skeleton. This has now become even more important and relevant in the light of claims that the human skeletal remains from Border Cave, near the village of Ingwavuma, Kwazulu, and from Klasies River Mouth Caves, some 120 km west of Port Elizabeth, are the earliest remains of anatomically modern *H.sapiens*. The dates of both of these sets of remains, claimed to be over 100 000 years, have been questioned. Tuinplaas (whose cranium resembles the adult skull of Border Cave) would seem to be a third South African site from which an early, anatomically modern *H. sapiens* has been recovered, though how early seems to be at present indeterminate. This background adds point to Hughes's latest comprehensive assessment of the Tuinplaas skeleton, published in G. Sperber's new book, "*From Apes to Angels*" (1990). In this study Hughes publishes a new reconstruction of the Tuinplaas skull and a careful, comprehensive re-appraisal of the entire skeleton. Although he acknowledges that the dating still remains uncertain, he concludes that, if the skeleton is not less than 15 000 years old (as suggested by the evidence of associated finds), "it seems reasonable to infer that Tuinplaas man represents one of the protonegriform populations from which Negro and Khoisan ethnic groups later diverged." Perhaps it is time to attempt to apply some of the newer methods of dating to the Tuinplaas skeleton, as a quarter

of a century has elapsed since K.P. Oakley obtained a tentative relative dating of the specimen.

OTHER FIELD VENTURES AND NATURAL HISTORY

Many other field surveys and excavations were conducted by Hughes, such as those to the Iron Age skeletons and artefacts collected by Mr. J. Fichardt on his farm Wellington Estate near Settlers, Central Transvaal (1951); the Anatomy Department expedition to Lake Chrissie to study the last-surviving San (Bushman) population in the Union of South Africa (1954); dolomitic cave breccia deposits at Rustenburg, Transvaal (1956); the expedition to "Vegkoppie" in the valley of the Lulu Mountains, Sekukuniland, eastern Transvaal (1956); and a visit, with J.W. Kitching, to the Zaka district of Zimbabwe to recover skeletons of elephant, buffalo and other animals (1957).

In 1958 he was invited to join Dr. D. Marais on his first Transafrican Waterways Expedition and to accompany Dr. F. Zumpt on his entomological expedition to northern Botswana. Two years later Hughes was inspecting a fossil site at Colenso in Natal and, in 1962, a fossil conifer site in the Senekal district of the Orange Free State. In 1963, the Barberton Municipality chanced upon pottery during the excavation of a new sewage disposal works: Hughes inspected and reported on this protohistoric occurrence. Later that year he recovered the skeletons of five white rhinoceroses in the Umfolozi Game Reserve, Natal. In the following year he represented Professor H.P.A. de Boom and myself at a meeting in that Reserve to discuss the proposed complete investigation of the white rhinoceros, a proposal greatly stimulated by the German engineer, industrialist and rhino-lover, Dr. W.T. Schaurte (who for a number of years made the Anatomy Department his "headquarters" for his natural history endeavours in southern Africa). A year later saw Alun Hughes participating, by invitation, in a meeting of the Rhinoceros Group of the Survival Service Commission of the International Union for the Conservation of Nature.

To his many interests Hughes added ornithology. He was a member of the S.A. Wild Life Protection Society from 1951 to 1970 and of the S.A. Ornithological Society from 1958 to 1970. Following on the earlier (unpublished) list compiled by A.C. Allison in 1945, Hughes between 1955 and 1962 prepared a list of the birds of the Makapansgat area in the Potgietersrus District, Transvaal. In 1960 he became a Founder Member of the Zoological Society of Southern Africa.

In all of these ventures he revealed his love of the African veld, its animals, its trees and other flora, its scenery and its rocks, and its people, past and present. During long, lonely months, spent in the research house that he and James Kitching built, in the Makapansgat valley, his Austin Roberts' *Birds of South Africa* (1940) and his binoculars were constant companions. He was a critical and enquiring observer.

HUGHES AND HUMAN BIOLOGY

Reference has already been made to some of Alun Hughes's physical anthropological and palaeo-anthropological interests and activities. A few remain to be mentioned. During excavations on the site of the old Witwatersrand Deep Mine, human skeletons were encountered. Hughes and I together inspected the site in 1951: it turned out to be an old cemetery in which departed Chinese indentured mineworkers had been buried. Hughes exhumed some 36 skeletons from the site. It was never quite certain whether the cemetery had been for the exclusive use of Chinese persons: an assumption to this effect led to R.A. Dart's oddly entitled and oddly compounded paper, "A Hottentot from Hongkong" (1952).

In 1959, Hughes joined forces with P. Beaumont, then of the Archaeological Survey of the Union of South Africa, in excavating a burial at Brotherton near Cathedral Peak in Natal.

An interesting venture into human genetics was a study by Hughes and Dr. J.K.G. Grieves, also of the staff of the Anatomy Department, and members of the National Institute for Personnel Research, of a black family at *Singlewood* on the Springbok Flats, a number of whose members showed medium-grade microcephaly. The Hughes-Grieves article on this family was published in 1953.

ARTISTRY, PHOTOGRAPHY, MODELLING, EXHIBITING, MUSEOLOGY

A man of many talents, painstaking, methodical, artistic, Hughes became an accomplished photographer, displaying his camera craft in the field and the laboratory. For a dozen years he helped Professor Dart's research by making drawings, superimpositions, reconstructions, photographs, restorations and models. His photographs were published in *Life* magazine and the *Illustrated London News*, among many other periodicals, and in numerous articles and texts. After I assumed the headship of the Anatomy Department in 1959, he rendered similar valuable help in my research undertakings, especially in my studies on *A. boisei, H. habilis* and *H. erectus* from Olduvai and other East African sites.

He was most proficient in preparing and mounting exhibits. Outstanding examples were the displays he erected at the Rhodes Centenary Exhibition in Bulawayo, Rhodesia (now Zimbabwe) in 1953; at the Witwatersrand University Exhibitions in 1955, 1964 and 1974; at I.S.M.A. (Institute for the Study of Man in Africa) functions in Johannesburg in 1959, 1960, 1962 and in the great I.S.M.A. Exhibition in the Johannesburg City Hall in 1963. Hughes aided in the building up of the Museum of Man in Johannesburg by helping me pack and transport the Juan Fichardt Collection from the Springbok Flats, the Guy Atwater Gardner Collection from Nottingham Road, the Konrad White Collection from Klerksdorp, the Paul Lowenstein Collection from Ladybrand and the

Heinz Geldmacher Collection from the Krugersdorp district.

His innumerable contributions (excluding routine duties) have included the devising, with the late Dr. A.G. Oettlé, of a new method of cataloguing and storing the Anatomy Department's collections; the building up of the Anatomy Department's large collection of animal skeletons; the making, mounting and displaying of life-masks of human faces; the provision of photographic assistance to the Departments of Geology and Archaeology and to the Bernard Price Institute for Palaeontological Research.

CONCLUSION

Alun Hughes's contributions to the advancement of anatomical, physical anthropological and palaeo-anthropological sciences have been unusual, indeed unique. They have unquestionably redounded to the credit and advantage of the University and of South African science at large. His qualities were recognised when he was awarded a Certificate of Merit by the South African Association for the Advancement of Science (1967) for "service to the advancement of knowledge in the field of Physical and Palaeo-anthropology". They were acknowledged also when he was made an Honorary Senior Field Research Officer of the Bernard Price Institute for Palaeontological Research (1976), an Associate Member of the Transvaal Museum, Pretoria, for his services rendered to that great institution (1981) and a Master of Science *honoris causa* of the University of the Witwatersrand (1985). His single-minded devotion to his researches, to the interests of the University and of a number of its departments, his unselfish willingness at all times to help the work of others, his patient, back-breaking, often unrewarding, protracted fieldwork – all these and many more traits mark him as one who richly deserves the accolade of this 75th Birthday Festschrift.

As I look back on the 44 years in which our paths have crossed and criss-crossed in a fruitful and productive interaction, I am conscious of a sense of profound gratitude to him. After the dozen years of dedicated service he had given to that veritable father-figure, Professor Dart, it could not have been easy for him to fall suddenly under a man over nine years his junior, when I assumed the stewardship of the Anatomy Department in 1959. Yet he gave me unstinting support, backing, encouragement and guidance – and has continued to do so these last 32 $^{1}/_{2}$ years. Thank you Alun: may you be blessed with reasonable health, with peace of mind and with a sense of satisfaction at a job superbly done.

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