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PVSA**

The Palaeontological Society of Southern Africa  
Die Paleontologiese Vereniging van Suider-Afrika

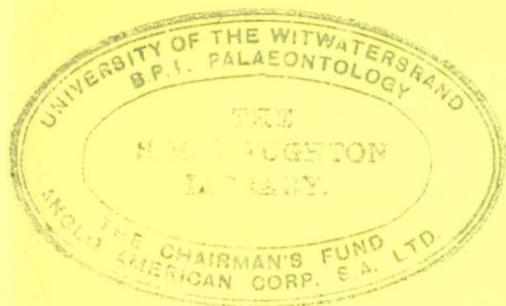
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**NEWSLETTER**

**NUUSBRIEF**

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Hierdie halfjaarlikse nuusbrieff word uitgegee deur die Paleontologiese Vereniging van Suider-Afrika onder redaksie van Jacques van Heerden. Dit is gedruk deur Dreyer Drukkers, Bloemfontein. Oplaag: 100.

Alle bydraes moet gerig word aan:

Die Redakteur  
PVSA Nuusbrieff  
p/a Nasionale Museum  
Posbus 266  
BLOEMFONTEIN  
9300

# THE FIRST PRESIDENT

En dit waarvoor almal gewag het, is nou bekend.  
Die eerste President van die PVSA is

Dr C K Brain.

Charles Kimberlin (Bob) Brain was born in Salisbury on 7 May 1931, where he also started his long educational programme. He matriculated at Pretoria Boys High and received his B.Sc. at the University of Cape Town in 1950. In 1954 he joined the staff of the Transvaal Museum and completed his Ph.D. thesis (on "The Transvaal ape-man bearing cave deposits") in 1957. In 1961 he went to the National Museum in Salisbury, but returned to the T.M. in 1965 as professional palaeontologist. In 1968 he was appointed Director of the Transvaal Museum.

Dr Brain is 'n wetenskaplike van groot aansien en het 'n indrukwekkende lys publikasies op sy kerfstok, nl. 40 oor die paleontologie, 22 oor laer werwel diere, 4 oor voëls en soogdiere, 6 oor algemene museumaangeleenthede en 'n monograaf oor die Transvaalse Hominoidea. Dit is ook nie sy eerste Presidentskap nie. Hy was President van die S.A. Argeologiese Vereniging (1968-70), die S.A. Biologiese Vereniging (1972-73), die S.A. Soölogiese Vereniging (1975) en SASKWA (1975-76). Hy was ook op 'n stadium president van die D-afdeling van die S2A3. en is a Fellow van die Zoological Society of London.

Bob has certainly been around. Up at Zimbabwe and down in the Cape, and also westwards in the Namib on field expeditions. We are indeed fortunate in having such a remarkable scientist as our first President and on behalf of all our members we sincerely congratulate Bob on being elected. His wide experience will certainly be of great value to the Society in the first few years of its existence.

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Twenty-eight members returned their ballot papers on the proposed Constitution. Of these, twenty-three accepted it as it stands, while the other five had some comments or amendments to make. Some of these are minor changes only in the wording, while some others are more drastic. Although the majority of members was in favour of the original, we nevertheless put these to you.

IT WOULD BE APPRECIATED IF YOU WOULD GIVE YOUR OPINION ON THESE ISSUES. Please send your comments directly to the Editor for publication in the next issue of this Newsletter.

#### Art. 1.1

Substitute with the following: *The Society will be known as "The Palaeontological Society of Southern Africa (PSSA)".*

Vervang met die volgende: *Die Vereniging sal bekend wees as "Die Paleontologiese Vereniging van Suider-Afrika (PVSA)".* (CE Gow)

This sounds better than the original, and is accepted.

#### Art. 1.2

Replace *mouth-piece* with *circular* (JW Kitching) or with *communication* (ARI Cruickshank).  
Dr Kitching's proposal is accepted.

Daar is geen probleem met die Afrikaanse ekwivalent nie.

#### Art. 2.2

Add the words: *...under strict guidance and observation of professionals.*



Voeg by: ...onder streng leiding en toesig van professionele paleontoloë. (JW Kitching)

Soos tans bewoord, impliseer die artikel reeds noue samewerking tussen amateur- en professionele paleontoloog, juis om die effektiwiteit en noukeurigheid van die amateur te verhoog. M.i. is hierdie toevoeging dus eintlik onnodig.

#### Alternative Suggestion/Alternatiewe Voorstel

*Delete the whole article, as it is incompatible with the National Monuments Act.*

*Skrap die hele artikel, aangesien dit onversoenbaar is met die Wet op Nasionale Gedenkwaardighede.* (CE Gow)

Daar word elders breedvoerig kommentaar op hierdie voorstel gelewer. Hier wil ons net kortliks die volgende punte noem:

Daar is geen bepaling in die genoemde Wet wat die Raad vir Nasionale Gedenkwaardighede verbied om 'n versamelpermit aan 'n amateur uit te reik nie. Daar is trouens 'n hele paar wat permitte het.

Die meerderheid van die stigterslede (almal vakkundiges) was ten gunste daarvan dat amateurs en tegnici ook moet kan aansluit.

Van die 28 stembriewe wat ontvang is oor die Konstitusie was daar net twee wat enige bedenkinge oor hierdie klousule uitgespreek het.

#### Art. 2.4 (New Article/Nuwe Artikel)

*When practicable, the Society shall establish a formal publication to print professional papers.*

*Wanneer prakties moontlik, sal die Vereniging 'n formele publikasie daarstel vir die druk van vakkundige bydraes.* (ARI Cruickshank)

Dit is 'n positiewe voorstel wat sekerlik 'n hoë ideaal vir die Vereniging stel. Die Nasionale Museum is vinnig op pad om sy eie drukkerij saam te stel en dit

sal moontlik wees om hierdie blad daar te laat druk, wat dit aansienlik goedkoper behoort te maak.

Oom Roy Oosthuizen het ook voorgestel dat as foto's nie met bestaande dupliseermetodes behoorlik gereproduseer kan word nie, moet die ledegeld verhoog word ten einde beter reproduksie moontlik te maak.

### Art. 3.2

Change second sentence to read: *They shall not pay membership fees and shall not have voting rights.*

Verander die tweede sin om te lees: *Hulle sal geen ledegelde betaal nie en sal nie stemreg hê nie.*

It is usually the case that honorary members cannot vote. It can be altered as suggested provided we have a majority vote.

### Art. 5.1.5

*Delete, as it is unnecessary.*

*Skrap, aangesien dit onnodig is.* (CE Gow)

This is a valid point; it was originally intended for the Afrikaans version just to make it clear that we are not discriminating against the gentle sex. After consultation with higher authorities, it was established that unless you exclude them specifically, the fair ones are naturally included.

The article is deleted.

### Art. 5.2.1

Change the second sentence to read: *The President retires after one term of office and is succeeded by the Vice-President in office.*



Vervang the tweede sin met: *Die President tree na een diensttermyn uit en word opgevolg deur die dienende Vice-President.*

RS Rubidge objected against the word "automatically" in the original, but would not make a formal proposal. We hope that the above version reads better, but we cannot change the meaning (viz. the succession of the President by the Vice-President), as this ensures continuity in the Committee.

#### Art. 5.2.3.1

Add: *Nominees must sign their acceptance for nomination.*

Voeg by: *Genomineerdes moet teken dat hulle verkiesbaar is.* (CE Gow)

There are University members who only return to the campus during February and it might happen that they are not in time to send their letters of acceptance. As it is, if an elected member should decline, the next one becomes the natural choice.

#### Art. 5.3.1

Add: *If the Treasurer is a member of the Society, he will have the vote at Committee meetings.*

Voeg by: *Indien die Tesourier 'n lid van die Vereniging is, sal hy stemreg hê op Komiteevergaderings.* (CE Gow)

The Treasurer must be regarded as a co-opted member of the Committee, even if he or she is a member of the Society. Other co-opted members of the Committee cannot vote either (art. 5.3.2). If co-opted members can vote, it might happen that a minority of the elected members can carry the vote with the help of co-opted members. And the elected members of the Committee are

responsible to the Society members, but not the co-opted Committee members.



## Art. 7.3

Delete and substitute the following: *The Society takes no responsibility for the scientific opinions expressed by members.*

Skrap en vervang deur: *Die Vereniging neem geen verantwoordelikheid vir wetenskaplike opinies wat deur lede uitgespreek word nie.* (ARI Cruickshank)

I would prefer to add this to the existing clause. As proposed, it does not safeguard the Society in case of a legal action against the Editor or a contributor. According to law, the Editor and the Society can be nominated co-respondents in a legal issue, unless the Constitution specifically excludes it.

U WORD WEER DAARAAN HERINNER DAT ONS KOMMENTAAR OOR HIERDIE VOORSTELLE SAL VERWELKOM. Stuur dit asseblief direk aan die Redakteur, wat alle bydraes in die volgende uitgawe van hierdie Nuusbrieff sal plaas.

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## THE MUSEUM PALAEOLOGIST AND THE NATIONAL MONUMENTS COUNCIL

by  
M.A. Cluver

(South African Museum, Cape Town)

*This paper was first read at the Annual General Meeting of the Southern African Museums' Association held earlier this year in Durban. It was subsequently published in the August issue of SAMAB and is reprinted here with the permission of the Editor of SAMAB. We are grateful to Mr Bigalke for his consent, as this is a matter that concerns all palaeontologists.*

It is a matter of concern among professional palaeontologists in South Africa that much can be done to improve the arrangements at present existing between themselves and the National Monuments Council. It can even be said that in some cases the relationship between



individual palaeontologists and the Council is very poor. In this contribution I wish to point out and examine some of the sources of friction and to suggest, in a spirit of genuine constructiveness, some alternative arrangements which might be acceptable to the parties concerned and beneficial to the discipline as a whole. I do not intend to go into the background and history of the present regulations governing palaeontological objects and the protection, excavation and export of them, nor am I in a good position to do so. It is for good reasons that regulations governing palaeontology have been brought into being; I wish merely to discuss these regulations as they affect the ordinary Museum man who has to deal with them every working day of his life. As such a person, I may be in some way qualified to make some criticism and some suggestions.

To begin with, where does the palaeontologist look for fossils? The specialist working on a particular group knows broadly the distribution of rocks of suitable age where specimens he is interested in might be found, but, since new areas and occurrences are continually being located, he must constantly be broadening the scope of his collecting area. Since the fossils he seeks are blissfully ignorant of geographical or political boundaries, the professional palaeontologist must be prepared to regard his collecting area as the largest one available to him in which rocks of suitable age might be expected to occur. An extreme example can be given in the instance of the fossil reptile *Lystrosaurus*, of which specimens are known from South Africa, Antarctica, India, the USSR and Sinkiang in China. In view of this distribution, which is a result of continental drift, it would be foolish to restrict a South African specialist on the group to a collecting area around, say, Middelburg in the Cape when in fact the genus is widespread throughout many parts of the country.

Yet this characteristic unpredictability of the fossil record is apparently not recognised by the National Monuments Council, and this gives rise to the first of the problems I wish to discuss, namely the issue by the Council of collecting permits to professional palaeontologists, without which by law no collecting can be undertaken. At present, a palaeontologist applies to the National Monuments Council for such a permit, this application is considered by a committee of the National Monuments Council and a permit is issued subject to a number of conditions. These conditions are usually unnecessarily restrictive and sometimes even prevent the holder from performing the function for which he was employed by his institution. Thus a palaeontologist engaged on research on Karoo reptiles, fossils of which are found over almost two-thirds of the country, finds that his permit allows him to collect only in two magisterial districts in the Cape; another whose research field is the late Tertiary fauna of the South West Cape can, according to his permit, collect at two sites only. The holder of a permit with such geographical restrictions has two alternatives: either he collects anyway in areas where his research interests lie, even though his permit there is invalid, or he applies for a new permit each time he goes on field work. Needless to say, the second alternative is seldom chosen.



The question of so-called rescue excavations also raises itself — should it be necessary for a fully-qualified Museum expert on ammonites to obtain a special permit before a new and threatened site containing Cretaceous invertebrates can be excavated? And what of the anomalous situation where palaeontologists of the Geological Survey collect fossils, with apparent impunity, without any permit at all but armed with authority from the department of Mines to enter any area and take whatever samples or specimens he needs.

Ranking with the Geological Survey in their privileged position as collectors without permits are a host of amateur collectors, "collectors" in the true sense of the word. I would like to stress that I do not refer here to the other kind of amateur, who works in close collaboration with a Museum or other institute, and who is one of a group of people who have rendered genuine service to the advancement of science in this country. The fossil collectors referred to here are those members of the public who collect solely for the sake of collecting, with no view to bringing their finds to the attention of professionals, and who seem to regard their finds as attractive curiosities for mantelpiece or cupboard drawer. The palaeontologist does his best to counter this tendency in the public by trying to explain to such people the scientific value of fossils, but to date he, armed only with his collecting permit restricting him to certain areas, requiring progress reports and renewal applications, can do no more than appeal to the better nature of the possessor of an important fossil in order to secure it for his museum collection. Such a palaeontologist may be forgiven for thinking that he, by reason of being a professional, is subject to restrictions which are apparently impossible to impose on ordinary members of the public.

I would like to illustrate this point with a specific example. Some time ago an archaeologist at an institution, which shall remain nameless, was approached by a gentleman who had with him some fossil bones he wished to have identified. The archaeologist saw at once that a new site had been tampered with and, after explaining to the man that he had been contravening regulations, went to the site and recovered some extra pieces of bone that had been exposed. Then the poor archaeologist made a mistake: since there was no palaeontologist on the staff of the particular institution, he informed the National Monuments Council of the locality and the bones he had taken possession of. The result: an angry letter from the Council reprimanding him for tampering with sites not specified in his permit. About the amateur who had caused all the damage to the site there was not a word. Now I believe that it is through actions like these the National Monuments Council loses large amounts of credibility in the eyes of Museum scientists.

It might be thought that once fossil specimens have been collected by Museum specialists and accessioned into a Museum register they could be regarded as "safe". In fact this is not so. The loan of registered fossil specimens to overseas specialists is a particular headache. The present system runs something like this: a foreign specialist writes or applies to the Museum for the loan for study purposes of a particular specimen or



specimens. This application is considered by the Museum authorities and if approved, a further application (five copies) is made by the Museum to the National Monuments Council. After a length of time, which may vary, a permit is issued by the Council allowing the specimen to be sent to the specialist for a specified length of time. In theory this sounds fairly straightforward, but in fact several problems are involved — the amount of time which is taken in obtaining a "temporary export" permit, the fact that the loan period includes the many weeks which are often involved in shipping large specimens to the foreign institutions, and the fact that the National Monuments Council requires the specimens to be returned within the specified time unless good reasons for granting an extension are provided by the overseas worker. The Museum itself acts as a sort of go-between and establishes the *bona fides* and reliability of the overseas applicant, the fragility and importance of the specimens, and sees to the packaging and despatch of the consignment. As a matter of interest, the parcels are labelled "Natural History Specimens" in the same way as are all other, perhaps equally rare and important non-fossil specimens which require no "export permit". This point is an important one: If, under the present system, I sold and shipped all the Karoo fossils in the collection of the South African Museum to a rich American museum, I am willing to lay odds that the National Monuments Council will be the last to know about it.

Upon expiry of the export permit, it is the Museum concerned which is asked by the National Monuments Council to ensure the return of the specimens — I know of no instance where the National Monuments Council has dealt directly with an overseas scientist, and I don't know if it is empowered to do so.

These are areas of palaeontological activity where, I believe, the present influence of the National Monuments Council is less than beneficial, but it would be altogether unfair if I did not suggest some alternative arrangements which might possibly prove agreeable to both the palaeontologist and the Council. Firstly, then, the matter of collecting permits: I suggest the following:

A collecting permit should be issued by the National Monuments Council to a professional palaeontologist on recommendation of the director of his Museum when he is satisfied that the man is sufficiently responsible and experienced. This permit can be made renewable after a three or five year period, again on recommendation of the director. Such a permit should not restrict the holder to any particular geographical area but may be valid for only certain sections of palaeontological research, ie. Karoo palaeontology, quaternary palaeontology or Cretaceous palaeontology. However, it should be possible for a permit holder to conduct a "rescue excavation" in another field if required. It would be a great advantage if the field worker were also issued with an official identification card, to be carried with him and used to establish his status as someone on official museum business.

The annual report which the National Monuments Council at present



requires of the permit holder should fall away; prospecting and excavation undertaken by the palaeontologist are recorded in his Museum's annual report; acknowledgement of the use of a National Monuments Council permit can be given in the report, which can be submitted to the National Monuments Council. In this way the Council can if it wishes follow the activities of all permit holders at any particular Museum or similar institute.

Renewal of collecting permits after three or five years should be considered by the National Monuments Council in consultation with the Director of the Museum concerned. The Director should also notify the National Monuments Council if a permit holder on his staff leaves, and take possession of his identification card.

I believe that most palaeontologists would welcome these changes in the issue of collecting permits, but I wish to urge an additional improvement. This is that the permit issued by the National Monuments Council should be a National one, valid in all parts of the country, including state and Provincial areas. It should entitle the holder to prospect and collect in areas that fall under the control of, for instance, the Natal Parks Board, the Department of Forestry or the Department of Water Affairs. The holder of such a National Monuments Council permit should be regarded as responsible enough to comply with regulations pertaining to special areas such as these, and it should not be necessary for him to apply for an additional, separate permit to enter them. Naturally the permit holder will not be given *carte blanche* to enter state or provincial areas without reporting to the authorities concerned; what I am pleading for is a more substantial, authoritative document that will be a help rather than a hindrance to the palaeontologist when he seeks permission to work in these areas. The nature of such a permit should also be clearly understood: It is to be used by the palaeontologist as an aid in his collecting for his Museum, and it does not represent a contract between him and the National Monuments Council. A museum palaeontologist's responsibilities are first and foremost to the Director of his institution, and it is the Director who should deal with the National Monuments Council.

With regard to the loan of registered Museum material to overseas specialists, I would plead for recognition of the responsibility which the Museum already bears in connection with loans of non-fossil material, which require no National Monuments Council permit. I will agree that the National Monuments Council has a role to play in helping to ensure that all fossil material sent out of the country comes back again, but I feel that it is not the role it plays at present.

I would suggest that the Museum concerned should decide in the first place whether the material should be loaned or not. This is anyway what is done at present, as this decision is reached before the National Monuments Council is approached. No specimen, need it be emphasized, may leave a Museum before a loan form, with the loan period stated, is signed by its Director.

Under my proposed system, once a decision is reached the National



Monuments Council is notified of the nature of the loan, the recipient and the loan period. Upon approval by the National Monuments Council, the loan is proceeded with in the usual way, and the Museum packs and despatches the specimens. The National Monuments Council does not stipulate when the specimen is to be returned, this being a matter between the Museum authorities and the specialist concerned, who may well need extension of the loan period. The Monuments Council must, however, be informed by the Museum Director of the eventual return of the material, and may from time to time enquire of the Museum whether it is satisfied that the material is still being actively worked upon.

In this way, the role of the National Monuments Council would be that of a superior controlling body, rather than that of a watchdog over individual professionals, and could be called in for assistance by a Museum if any problems relating to the excavating or loan of fossil material should arise.

I have suggested nothing about controlling collecting by amateurs — this would probably require a separate symposium — but I can say that I feel strongly that serious amateurs should be encouraged to work in collaboration with a nearby institution — much of what we know about palaeontology has been the result of the work of amateurs. How the Council should use its powers in dealing with the other species of "amateur", who loots sites for profit or pleasure, is I think largely a matter for themselves to decide.

I believe that my suggestions regarding the collecting and loaning of fossil material could, if implemented, represent an improvement on the existing system without resulting in any reduction in the control over palaeontological material existing now. But in closing I wish to emphasize that the suggestions I have made involve no more than recognition of the responsibilities that Museums are anyway intended to carry. I feel that in these areas a Museum is in the best possible position to control the activities of its palaeontological departments, and that awareness of this by the National Monuments Council can only lead to an improved and more productive relationship between that body and South Africa's museum service.

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*The Editor of SAMAB gave Mr Humphreys, the Secretary of the National Monuments Council, the opportunity to answer Dr Cluver. His comment originally appeared in the August issue of SAMAB and is here reprinted with the kind permission of the SAMAB Editor.*



## REPLY TO DR. M.A. CLUVER

by

*A.J.B. Humphreys*

(Senior Professional Officer, National Monuments Council, Cape Town)

Dr Cluver notes that "in some cases the relationship between individual palaeontologists and the Council is very poor", and points out several areas of friction.

One such area of friction is said to be the limitations imposed on permit holders who want to collect fossils which "are blissfully ignorant of geographical or political boundaries". The problem here seems to be not so much the conditions attaching to the permit but rather what the researcher asked for in his permit application. If the permit holder received a permit entitling him to collect in the Middelburg area, this was because he applied for a permit specifically for that area. Had the applicant applied for a permit to collect fossils anywhere in the Karoo System, and he was a sufficiently qualified and experienced person, the chances are that such a permit would have been granted. The Council generally grants permits for work in the areas specified in the application; if this specified area is too restricted it is hardly the Council's fault.

With regard to the question of, say, a Karoo palaeontologist "rescuing" an ammonite without a permit to collect Cretaceous fossils, action is hardly likely to be taken. Dr Cluver quotes the case of the "nameless" museum where the Council is said to have reprimanded an unfortunate archaeologist for rescuing some fossils. We cannot trace this incident on our files and if Dr Cluver could be more specific, we would gladly investigate. The incident sounds somewhat incredible.

The whole question of "amateur" collectors is one that plagues palaeontology and archaeology. The Council is no less aware of this problem than is the professional. All cases brought to the attention of the Council are followed up but obviously this is only the tip of the iceberg. Hopefully when the Honorary Curator scheme is developed, palaeontology and archaeology as a whole will be better placed to combat this problem. Dr Cluver notes that the Council imposes restrictions on professionals that are impossible to impose on ordinary members of the public. Any law by its nature "restricts" those who obey it; only those operating outside the law feel free of its restrictions but this does not negate the value of the law.

Dr Cluver raises the question of the problems of lending museum accessions to overseas researchers. Clearly two interests are involved here — the museum concern for the safety of its property and the Council's concern for palaeontological material in terms of the Act. Some streamlining may be necessary here; this is a question which requires attention.

The points raised about the role of the director in assuming



responsibility to the Council for his palaeontologist are interesting. Such a system may have some merit in a wholly palaeontological institution or where the director is a palaeontologist himself but in museums where the director, by virtue of his research field, normally has no dealings with the Council, such a system would merely add an unnecessary link in the chain. It seems little enough to expect an individual palaeontologist to assume personal responsibility for his activities and whether reports are made to a director or straight to the Council would seem to be academic.

An important point raised by Dr Cluver is the "power" of a National Monuments Council permit; he suggests that it should entitle the holder to enter areas controlled by various government bodies, etc. Here Dr Cluver presumably has in mind the documents issued by such bodies as the Geological Survey. The difficulty here is that the people to whom permits are issued are not necessarily in the employ of, or operating on behalf of, the National Monuments Council. While other bodies, like the Geological Survey, are empowering their own people to work on their behalf, this is not the case with the National Monuments Council. The Council may not necessarily want to confer such wide "powers" on any individual researcher and to discriminate would obviously be invidious. In any event the Council does not organise research it only gives legal authority for such research to be undertaken on behalf of the various institutions employing palaeontologists and archaeologists, whether these be local or overseas.

The question raised by Mr Hall and Dr Cluver are all of value. Some point out genuine difficulties which must be resolved; some have arisen through misunderstandings on both sides; some, again, have merit but are perhaps not useful in that they are not practicable or go beyond the provisions of the existing Act. Whatever the results, however, such exchanges of views are important.

Our concern as archaeologists and palaeontologists is with archaeology and palaeontology in this country and not with an "us versus them" mentality. The various bodies concerned with archaeology and palaeontology in this country must keep in close touch in the interests of these fields. A close liaison between the Council, the S.A. Association of Archaeologists and the newly formed Society of Southern African Palaeontologists is an essential step in this direction. Hopefully in the near future some of the difficulties raised by Mr Hall and Dr Cluver will be resolved through such contact.

The National Monuments Council is most grateful to these gentlemen for their interest and contributions.

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## Report on Karoo Palaeontology Symposium

This report, by Dr Arthur Cruickshank of the Bernard Price Institute for Palaeontological Research, originally appeared in the *South African Journal of Science*, August 1977, pp. 232-234. We would like to thank Dr. Baker, Editor of the Journal, for his kind permission to reprint the article here.

Seventeen speakers from the four South African provinces and Rhodesia gathered in the Bernard Price Institute for Palaeontological Research, at the end of June, to read papers and discuss research concerned with Karoo vertebrate palaeontology, palaeobotany, sedimentology and related fields. The delegates and a large and enthusiastic audience were welcomed by the Dean of the Faculty of Science of the University of the Witwatersrand, Professor P. D. Tyson, who remarked that it was 15 years since a similar function had been held in Cape Town to mark the silver jubilee of the S.A. Association for the Advancement of Science.

The first group of papers, by Hobday, J. M. Anderson, and Oelofsen, was concerned with aspects of the physical environment. Dr D. K. Hobday (University of Natal) reported on models of sedimentary deposition from the Ecca and Beaufort Groups in the eastern Karoo Basin. The vast store of biological data (plants, pollens, amphibians, reptiles, fish and trace fossils) available, used in conjunction with an increasing awareness of the dynamical processes which contribute to rock composition, texture and three-dimensional lithofacies—an

approach which, through the early work of Alex du Toit and others in South Africa, has been perhaps a longer-established concern of local geologists than those elsewhere—is likely to lead to an unusually comprehensive and sophisticated synthesis of the geological history of the basin. He concluded that in the Ecca there was a complex environment which is represented today by deltaic, channel and beach deposits whereas in the Beaufort conditions seemed to support the idea of crevasse splays, meander belt floodplain, and braided stream deposits as presently interpreted.

Dr J. M. Anderson (Botanical Research Institute, Pretoria) reviewed current progress in the reconstruction of the southern African Permo-Triassic in the context of the latest concepts in global tectonics, palaeogeography and biogeography. It is now possible to demonstrate that this region has evolved through a cycle of events in which widely scattered land-masses collided to form a single united supercontinent (Pangea), and then split up into a differently disposed set of land-masses. The Permo-Triassic era spans the turning point in the evolution and dismembering of the supercontinent.



and the changes in local floras and faunas seem to be linked to the phases of Gondwanaland evolution he postulates.

### Dinosaur extinction

B. W. Oelofsen's (University of Stellenbosch) contribution took the form of a long-ranging look at the palaeontological old chestnut: why did the dinosaurs disappear? Among all the theories advanced to explain the selective extinction at the end of the Mesozoic—interspecific competition brought on by overcrowding, lethal changes in the food chain resulting from a change in climate, and the build-up of environmental poisons—Oelofsen was inclined to consider the most convincing the consequences of a marked increase in atmospheric  $\text{CO}_2$  at a time of extensive volcanic activity during the Cretaceous and immediately before. This would have been associated with a general warming of the atmosphere—the greenhouse effect—leading firstly to an amelioration of the climate and subsequently a cooling-off period, resulting in interference with animal reproduction from physiological stress. In short, the  $\text{CO}_2$  would have acted as a poison and would most have affected the respiration of embryos in shells. The larger the egg the greater its volume to surface ratio, and probably the greater the thickness of the shell, all of which increase vulnerability to asphyxiation compared to a smaller egg. When placed under  $\text{CO}_2$  stress, those animals laying large eggs would have perished first. Thus, the dinosaurs died out because too many of their eggs failed to hatch, whereas the birds and crocodiles, for example, which laid much smaller eggs, survived the environmental onslaught. Taken over a long period all these effects must have had considerable influence on the survival of these large, poorly insulated forms. Oelofsen also postulated that towards the

end of the Cretaceous, just before the cooling-off effect became important, physiological stress on reproduction had led to the shells of dinosaur eggs becoming too thin to be mechanically efficient and that this would have added to the destruction of developing embryos. Experimental work on the effect of varying the  $\text{CO}_2$  atmosphere around developing chickens is in progress and the results awaited with bated breath.

A science relatively new to South Africa and one which local industry seems unwilling to recognise as being of use, is palynology. Rosemary Falcon (Bernard Price Institute) therefore was able to break new ground in discussing her researches into the biostratigraphic zonation of Rhodesian cores, particularly some coal-associated sections, based on correlation of the strata by means of these fossil pollens. Palynology has proved to be generally successful in solving stratigraphic problems in the Rhodesian part of the Karoo Supergroup, and has proved to be a valuable key to the elucidation of past climates and their associated floras.

Dr H. M. Anderson (Bernard Price Institute) continued the fossil plant discussion with a review of the problems involved in classifying the genus *Dicroidium*, a ubiquitous seed fern of the Gondwanaland Lower Mesozoic. It is very common in the South African Molteno Formation and displays a degree of variation liable to confuse all but the most discriminating palaeobotanist. In overcoming her difficulties, she has introduced the concept of the 'morphospecies' and 'biorecord', following the lead of Hughes and Moody-Stewart in the field of European palynology. Clearly though, a complex situation exists with regard to elucidating the true biological identity of the material she has. Dr E. Kovacs-Endrödy (Bernard Price Institute)



is faced with similar problems in the *Gangamopteris/Glossopteris* complex and approached the problem of their taxonomy from a much more philosophical viewpoint, concluding that in the end, one has to go back not so much to the description of the original material, but to the actual specimens themselves in order to define their true character.

Two separate papers on trackways of trace fossils were presented, by Dr Ann Anderson (Rand Afrikaans University) and Dr D. E. van Dijk (University of Natal). The former demonstrated how arthropod trackways in the glacial Dwyka could be distinguished from those in the overlying non-glacial Ecca deposits, and how the tracks of different species were shown up.

Van Dijk, on the other hand, dealt with the footprints of what appeared to be a hopping dinosaur. These occurred in a lens of water-laid siltstone within the predominantly aeolian Cave Sandstone, and are significant if for that fact alone.

Miss Sharon Chernin and Dr J. W. Kitching (both Bernard Price Institute) presented two complementary papers on amphibian palaeontology. The latter described where and how these fossils occur in the Beaufort (rare and scattered, except perhaps in the *Cynognathus* zone) and Chernin explained how they could be ascribed to one of four basic niches based on skull shape and proportion (post-cranial remains of the larger crocodile like forms being very rare in any case).

M. A. Raath (National Museums and Monuments of Rhodesia), in the highlight of the symposium, gave a spirited defence of his reasons for believing that *Syntarsus*, a small theropod that grew fractionally over 2 metres long, was 'warm blooded.' *Syntarsus* has been recovered from three localities in the Late Triassic of Rhodesia, and its remains have permitted a relatively complete

reconstruction of its anatomy and possible physiology, in particular in regard to their bearing on thermoregulation. He also commented on the origin of feathers and the likelihood of this pretty little animal having been so covered.

Drs M. A. Cluver (South African Museum) and A. R. I. Cruickshank (Bernard Price Institute) took separate paths in their efforts to solve the mystery of the Dicynodontia, the common herbivores of the South African Beaufort. Cluver, working in conjunction with Hottot of the Smithsonian Institution, has devised a four-fold basic taxonomy of the Permian genera, based on permutations of what appear to be fundamental characteristics of their skull anatomy. Cruickshank discussed their Triassic counterparts from the point of view of their functional adaptation. He reviewed previous unsatisfactory attempts at linking skull anatomy with classificatory schemes, and proposed that they might best be compared with South American Tertiary ground sloths, rather than with rhinos as has been done in the past.

Turning to the other Triassic herbivore groups, Dr C. Gow (Bernard Price Institute) reviewed tooth form and function in a range of reptilian taxa and pointed out in essence that the sudden reduction of Anomodont numbers at the Permo-Triassic boundary allowed the non-Anomodont groups to radiate into these now-vacant niches. This resulted in a burst of speciation in the proclophionids in particular.

The Therocephalia were discussed by J. A. van den Heever (South African Museum) from the point of view of the taxonomy of their early representatives in the Lower Beaufort; he had found that canine number and size seemed not to be significant. Within the same broad group, Dr A. W. Keyser (Geological Survey) was able to postulate the presence of a quasi-mammalian 'masseter' muscle in the last



known bauriamorph, a new species from the Middle Triassic of South West Africa.

The final paper was delivered by F. A. Grine (University of the Witwatersrand), who had analysed morphometrically 55 specimens of gomphodont cynodonts which he believed to belong to the genus *Diademodon*. His 'growth curves' show a typically reptilian pattern and indicate that only one species, *D. tetragonus* Seeley, is present in the Beaufort. He also does not believe that *Diademodon* has a restricted number of tooth replacement generations.

### In retrospect

In his summary at the close of the symposium, Professor G. Bond (University of Rhodesia) paid tribute to the pioneer workers who had laid such a good foundation for present research. Those generations of generalists had now been replaced by a vigorous new generation of specialists, mostly locally trained. Although there was room for more people to work on the Karoo fossils, the present economic circumstances made it unlikely they would be recruited. However, the bulk of the manpower needed for this work was available, and deserved the necessary encouragement.

Bond considered that there was a vast amount of taxonomic work still to be done

on the Karoo fossil plants and animals. In fact a soundly based taxonomic scheme was basic to progress in palaeontology. Once the fossil taxa in a set of sediments had been established, only then could the fossils be related to their enclosing rocks and the presumed ecology of the time. In due course this knowledge of the past could perhaps be the key to future environmental and evolutionary changes.

He assumed that the ultimate aim of Karoo palaeontologists was to build a detailed, composite picture of the Karoo basin throughout its history. Although each specialist spun his own line of evidence, this was a multidisciplinary exercise in which each contributor gave to and received mutual support from his colleagues. That spirit was evident from the symposium, although, in Bond's view, future meetings should possibly include work on the Precambrian and Quaternary.

The social events included a dinner and an outing to the Swartkrans and Kromdraai ape man localities. The next meeting is scheduled for Cape Town in 1979, possibly under the aegis of the Society of South African Palaeontologists. All enquiries should be directed to Dr M. A. Cluver, South African Museum, who will be pleased to provide what details there are at this early time.

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In fact, I distinctly remember (even after all the intervening liquid refreshment) some delegates who were supposed to confine themselves to having beer and sandwiches. The excitement of the past, exhibiting a very extensive knowledge of human anatomy, especially when it came to the wrapping of limbs!

The excursion to Swartkrans and Kromdraai on Saturday (the 15th) was most interesting and the brain afterwards



## THE KAROO SYMPOSIUM - INFORMALLY

A formal account of the proceedings of the Karoo Symposium held in June is given elsewhere. But what about the reactions of delegates?

All those I approached with my stock question of "How do (did) you like the Symposium?" answered by saying that he or she was finding it most stimulating (and I am NOT specifically referring to Fred Grine's slide show) and were surprised that this hadn't been done during the past 15 years. Certainly the lively discussions after many of the papers must also be regarded as evidence that these were thought-provoking. And even if one does not agree with a certain view, it makes one re-examine one's own pet theories in a new light. Mark Twain said that it's difference of opinion that makes horse-races, and it is equally true that it is difference of opinion that makes for the advancement of science.

Dr Sidney Haughton certainly delighted us with his anecdotes at the Symposium Dinner on the evening of the 23rd. It is a pity that Dr Sidney did not have a separate hour during Congress to tell us more of his experiences during the earlier years. Maybe the organizers of the next Symposium will bear this in mind?

During tea-breaks there was a continuous chattering, mostly pertaining to lectures given just previously. It also proved to be an excellent opportunity to look up old friends and to make new ones. After hours the Johannesburgers also showed the visitors around, but it cannot be stated in all truth that the discussions on these excursions were limited to palaeontological problems. In fact, I distinctly remember (even after all the intoxicating liquid refreshment) some delegates, who are supposed to confine themselves to delving deeper into the mysteries of the past, exhibiting a very extensive knowledge of human anatomy, especially when it came to the swapping of limiricks!

The excursion to Swartkrans and Kromdraai on Saturday (the 25th) was most interesting and the braai afterwards



a fitting finish to the Symposium. Unfortunately not all the delegates could join us on this trip, for various reasons. Some had by then already left for home base, others had come prepared to sleep during the day and were disappointed by the interesting lectures, but mostly they were recovering from the Friday night on the tiles.

In all truth I can say that I've enjoyed the Symposium immensely and really look forward to the next one. And if Yours Truly can give you any advice, beg, borrow or steal the money, but don't miss the next one!

-- J van Heerden

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## DIE VOLGENDE SIMPOSIUM

Aan die einde van die Karoo-Simposium het Dr M A Cluver namens die Suid-Afrikaanse Museum 'n uitnodiging gerig aan al die afgevaardigdes om in die loop van 1979 'n Paleontologiese Kongres in Kaapstad by te woon.

Die Komiteelede het reeds so 'n bietjie samesprekings daaroor gevoer, maar die finale reëlings oor die duur en aard van die Kongres sal later getref word. Uit die voorlopige beraadslagings is dit egter duidelik dat ons graag AL die vakgebiede binne die Paleontologie wil betrek, maar dit sal net gedoen kan word as daar genoegsame belangstelling uit al die oorde is. Skryf maar gerus aan die Sekretaris of die Redakteur as u enige breinstorms kry.

Voorlopig wil ons Drs Barry en Cluver baie hartlik bedank vir die vriendelike uitnodiging. Ons sal beslis daarvan gebruik maak.

# NUUS . NEWS

Alle lede het nog nie gereageer op die oproep om nuus in te stuur oor hul aktiwiteite nie, maar ons hoop dat dit volgende keer beter sal gaan. Juri van den Heever is die korrespondent vir die Kaap en omgewing, Russell Shone vir Port Elizabeth en Matthew Kitching vir Johannesburg en Pretoria. U is ook welkom om bydraes direk aan Die Redakteur te stuur.

## KAAPSTAD/CAPE TOWN

Mike Cluver has completed his study of *Cistecephalus* and has come to the conclusion that it has a remarkable post-cranial skeleton. This will be published soon in the Annals of the South African Museum. He has also recently published a review of James Kitching's thesis in the South African Journal of Science (August 1977). He plans a field-trip to Beaufort West during October.

Richard Klein, who is a research associate at the S A M, is reconstructing the man-animal relationships in southern Africa during the Stone Age. He has already analyzed the faunal remains from some 50 (mainly Middle) Stone Age sites. A summary of this research may be found in Science 197 (1977): 115-126.

Juri van den Heever is nog steeds besig om die tande van alle beskikbare therocephaliërs te tel, terwyl Kathy Rialhulle fluks vorder met die prepareerwerk.

Herbie Klinger is writing up the systematics of the Zulu-land ammonites and has found an extraordinary range of variation within the family Collignoniceratidae. In between Herbie also handles the correspondence of the Society and has had to deal with quite a number of membership applications resulting from the free advertisement in the Geological Society News Bulletin.

Tony Tankard is at present gathering information and background knowledge on the palaeoecology of the Beaufort. This is something that has been left behind, so to speak, in the pre-occupation with taxonomic descriptions and will certainly prove to be worthwhile.



## STELLENBOSCH

Burger Oelofsen is besig met sy proefskrif oor *Mesosaurus*, wat hopelik binne die volgende jaar afgehandel sal word. Intussen is hy ook besig met broei-eksperimente ter staving van sy teorie oor die uitsterwing van die dinosouriërs (sien berig elders). Hy en Juri beplan 'n versameltog na die omgewing van Merweville teen die einde van September.

## MIDDELBURG, K.P. &amp; ALIWAL-NOORD

Louis Botha, wat al verskeie interessante fossiele vir die Nasionale Museum versamel het (hy is 'n gepermitteerde amateur-versamelaar), is tans besig met die beplanning van 'n uitstalling oor die *Lystrosaurus*-sone in die nuwe Museum by Grootfontein Landboukollege. Vir hierdie doel het hy uitstalmateriaal van die Nasionale Museum op leenbruik ontvang.

Oom Boet du Plooy het enkele jare gelede 'n merkwaardig groot amfibie uit die *Cynognathus*-sone ontdek en het ook 'n afgietsel van hierdie dier van die Nasionale Museum ontvang, wat nou in die Museum op Aliwal-Noord uitgestal sal word.

## PORT ELIZABETH

Russell Shone must certainly be one of the most active members of the Society as regards canvassing for the Society. The result is that P E is now perhaps the best-represented city in the Society.

## BLOEMFONTEIN

Johan (JC) Looock het begin om sy tesis te skryf, maar kla dat al die inspeksiewerk (van M.Sc.studente in Geologie) inbreuk maak op sy skryftyd. Die feit dat klein Johannes ook by tye in die studeerkamer beland, is ook nie juis bevorderlik vir 'n spoedige voltooiing van die tesis nie.

Jacques van Heerden se tesis staan darem nou einde se kant toe. Dit beloof om 'n ware foto-verhaal van die *Melanorosauridae* te wees en sal hopelik in die loop van 1978 deur die Nasionale Museum gepubliseer word (dis nou mits die referente nie die ding afkeur nie). Hy en Peter Galton beplan ook nou dinge saam, maar op die oomblik is Peter se tyd deur ander dinge in beslag geneem.

James Kitching published his thesis earlier this year as Memoir no. 1 of the B P I (Palaeontology). Since then he's been working on the distribution of the Karoo Amphibia. This too is now almost completed and James plans to leave for the Antarctic (via the U S A) on October 6. He will spend four months below zero to collect fossils for the Americans and hopes to be back (at least that part of him which is not by then frozen stiff) in Brazil (of all places) in February.

Chris Gow has recently published a paper on tooth function and succession in *Procolophon* (Palaeontology, vol. 20 (1977), pp. 695-704).

PRETORIA

From the Transvaal Museum we've had the good news that another Palaeontologist has been appointed Assistant Director to a Museum. We would like to congratulate Dr Elizabeth Vrba on her appointed to this eminent post! (And for those who are somewhat in the dark, Dr Michael Cluver has been shuffling papers at the South African Museum now for quite some time.)

## SALESBURY

Mike Raath, who has even more paperwork as Director of the National Museums and Monuments of Rhodesia, has completed his thesis on *Syntarsus* and Prof. Bond now has a GOOD book to take to bed every evening. And we probably did not hear the end of *Syntarsus* at the Karoo Symposium in Johannesburg.

GEOLOGICAL SURVEY, PRETORIA ?

GEOLOGICAL SURVEY, CAPE TOWN ?

GEOLOGY DEPT, U P E ?

NATAL UNIVERSITY ?

Where art thou?

10-10-68



## AMATEUR- EN PROFESSIONELE PALEONTOLOE

Enkele lede het beswaar gemaak teen die voorgestelde ope lidmaatskap van die Vereniging (sien bladsy 5). Die betrokke artikel is met 'n groot meerderheid goedgekeur, maar dit is miskien tog nodig dat ons 'n paar gedagtes hieroor wissel. U kommentaar hieroor sal verwelkom word.

In 'n onlangse artikel het A C Brown<sup>1</sup> 'n duidelike onderskeid getref tussen die amateur- en amateuragtige wetenskaplike. Dit is noodsaaklik dat ons hierdie verskil ook in die Paleontologie maak.

Die amateuragtige versamelaar is nie bewus van die waarde van of die fossiel of sy vindplek nie. Sommige van hulle (dareem vandag al minder as twintig of dertig jaar gelede) versamel om dit in die buiteland te verkoop. Vir die meeste is die fossiel bloot 'n curiositeit, bedoel vir die rotstuin, die kaggelrakkie, 'n papiergewig, of 'n deurstop. Daar is selfs 'n sekere groep van hierdie amateuragtiges wat wel (vaagweg) bewus is van die wetenskaplike waarde van die deurstop, maar hulle stel nie daarin belang om met 'n paleontologiese inrigting saam te werk nie. Hy doen altyd afstand van die fossiel met die grootste gebrek aan entoesiasme, en dikwels eers nadat hy met regstappe gedreig is.

*Vir hierdie soort versamelaar is daar geen plek in die Vereniging nie.* Dit is die plig van elke paleontoloog om sulke gevalle, wat as fossiel-vandalisme beskou moet word, eerstens by die Komitee van die Vereniging en tweedens by die Sekretaris van die Raad vir Nasionale Gedenkwaardighede aan te meld.

Indien 'n lid van die Vereniging hom aan sulke gedrag sou skuldig maak, sal dit beskou word as 'n dwarsboming van die doelstellings van die Vereniging. Hy kan dan, ooreenkomstig artikel 3.6, as lid geskors word. Die Konstitusie maak ook voorsiening daarvoor dat aansoekers om lidmaatskap ná 1 Julie vanjaar gekeur word. Indien lede die Komitee van die Vereniging dus so gou moontlik van enige fossiel-vandalisme verwittig, kan gesorg word dat hierdie persoon, indien hy sou aansoek doen, nie as lid



aanvaar word nie, en tweedens kan die Komitee dan by die RNG aanbeveel dat daar verder teen hom opgetree word. Ons mag ook in hierdie verband noem dat die Sekretaris van die PVSA reeds deur die Sekretaris van die RNG genader is oor die moontlikheid dat die Vereniging as keurliggaam sal optree by die beoordeling van permit-aansoeke. Dit is reeds in beginsel deur die Komitee goedgekeur, hoewel ons nog nie oor die presiese prosedure besluit het nie. U mening hieroor sal verwelkom word.

Die gesindheid van die amateur-paleontoloog is heeltemal anders as dié van die amateuragtige versamelaar. Hy is bewus van die wetenskaplike waarde van die fossiel, of is ten minste vatbaar vir oortuiging. Indien hy dit nie reeds doen nie, kan hy met die regte benadering 'n positiewe invloed in die Paleontologie wees.

Dit word geredelik toegegee dat daar verskillende grade van amateurs is. Aan die een kant van die skaal het ons die betreklik onkundige, maar nietemin leergierige, amateur. Moet hom nie versmaai nie--ons het almal daar begin! Dit is noodsaaklik dat die paleontoloog hierdie jong amateur die nodige leiding gee. Verskaf aan hom die name van 'n paar boeke wat hy kan raadpleeg, of gee dit self vir hom as u dit kan afstaan. Waar dit moontlik is, kan so 'n jong amateur ook saamgeneem word op 'n ekspedisie, waar hy persoonlik kan sien hoe presies fossiele versamel moet word. Dit wil nie sê dat ons van elke amateur 'n versamelaar moet maak nie, maar hierdeur werk die suurdeeg deur na die algemene publiek, sodat daar 'n groter begrip van hul kant af vir die paleontoloog se besondere probleme is. Dit kan net positiewe gevolge hê.

Aan die anderkant van die amateur-skaal het ons ware vak-kundiges. Hierdie mense het deur selfstudie hul huidige sport bereik en kan enige tyd vir enige professionele paleontoloog op hul vakgebied kersvashou. Deur die minder kundige amateurs reg te benader, kan ons van hulle net sulke goeie paleontoloë maak.

In hierdie verband is dit goed om daarop te let dat kundige amateurs in die verlede 'n baie groot bydrae tot verbreiding van ons kennis gemaak het. A G Bain was een



van die eerstes wat fossiele in die Karoo versamel het. Hy het dit onder die aandag van Britse paleontoloë gebring en later het H G Seeley self kom kyk. Robert Broom het baie jare lank as amateur hier gewerk, om uiteindelik 'n professionele paleontoloog te word. Gogga Brown het 'n groot versameling van fossiele en klipwerkstukke in die omgewing van Aliwal-Noord gemaak en sy lokaliteits-aanduidings was baie beter as die van sy professionele (?) tydgenote! Whaits en Vader Ruebsamen het elkeen ook sý deel bygedra om ons fossielskat bekend te stel.

Dit is seker dat die Suid-Afrikaanse Paleontologie vandag baie verder agter sou gewees het as dit nie vir hierdie vroeë baanbrekers was nie.

In die eerste helfte van hierdie eeu het C J Kitching, vader van James, nie net self belanggestel in fossiele nie, maar ook vir Sidney Henry Rubidge geïnteresseerd gekry. Die resultaat van hierdie samewerking was die wêreldberoemde Rubidge-versameling van Karoofossiele. James Kitching self het geen akademiese opleiding as paleontoloog gehad nie. Wat hy wel het, is baie kosbaarder, naamlik versamelingondervinding van meer as 50 jaar. Dit is geen wonder dat James vandag as 'n wêreldoutoriteit op versameltegnieke in die Karoo beskou word nie. Dit is net onmoontlik om hierdie kennis uit die studie van boeke op te doen.

Ons kan ook nie nalaat om die bydraes van twee ander mense te noem nie. Die eerste is Mnr Roy Oosthuizen van Prins Albert. Deur selfstudie het hy 'n ensiklopediese kennis van die fossiele van die Dwyka en Kaapse Sisteem verkry. Deur die jare het hy sy versameling opgebou (vóór die Wet op Nasionale Gedenkwaardighede van 1969), 'n versameling waarvan die dokumentasie goed vergelyk met die beste van enige versameling in Suid-Afrika. Oom Roy het ook die unieke vonds gemaak, naamlik met die ontdekking van pliosponse in die swerfstene van die Dwyka-tilliet.

'n Ander uitsonderlike vonds was dié van Mnr Abraham de Vries van Barrydale, wat die rugpen van 'n placoderm-vis in die Kaapse Sisteem ontdek het. Dit is deur 'n ander amateur as sulks geïdentifiseer en later deur 'n

kenner by die Britse Museum (Natuurgeskiedenis) bevestig.

In die lig van die bydraes wat amateurs in die verlede tot die Paleontologie gemaak het, kan ek werklik nie sien hoe ons hulle uit die Vereniging kan uitsluit nie. Ons land het 'n fossielskat soos min ander in die wêreld, en 'n relatief klein bevolking. Selfs al sou al die professionele paleontoloë voltyds versamel, sal hulle nie kan voorbly nie. Die toegewyde amateur kan egter in sy bepaalde gebied werk van onskatbare waarde doen. Ons moet hulle daartoe aanmoedig en behulpzaam wees waar ons kan. Die alternatief is dat baie van hierdie waardevolle fossiele vir altyd verlore sal gaan, en dit is iets wat ons eenvoudig nie kan bekostig nie.

A C Brown het in die genoemde artikel gesê dat hy hoop om eendag, as sy dae as professionele wetenskaplike verby is, amateurstatus te verkry, juis omdat hierdie mense met soveel toewyding werk. Die amateur-paleontoloog gaan dikwels groot moeite en koste aan ter wille van die Paleontologie en die minste wat ons as professionele mense kan doen, is om hul hande te sterk.

Ek wil voorstel dat die Vereniging die bydraes van die amateurs erken deur aan dié wat besondere bydraes gelewer het, ere-lidmaatskap van die Vereniging aan te bied, of moontlik 'n Meriete-Sertifikaat uit te reik, om op hierdie wyse ons waardering vir hul dienste te toon.

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<sup>1</sup> A C Brown: *The Amateur Scientist*, in, *A History of Scientific Endeavour in South Africa*. Uitgegee deur die Royal Society of South Africa, Junie 1977.



## BOOK REVIEW

*Bau und Leben der Rhinogradentia* by Harald Stümpke, Gustav Fischer Verlag, Stuttgart, 1162 pp., 123 figs, 10 pls. Price unknown.

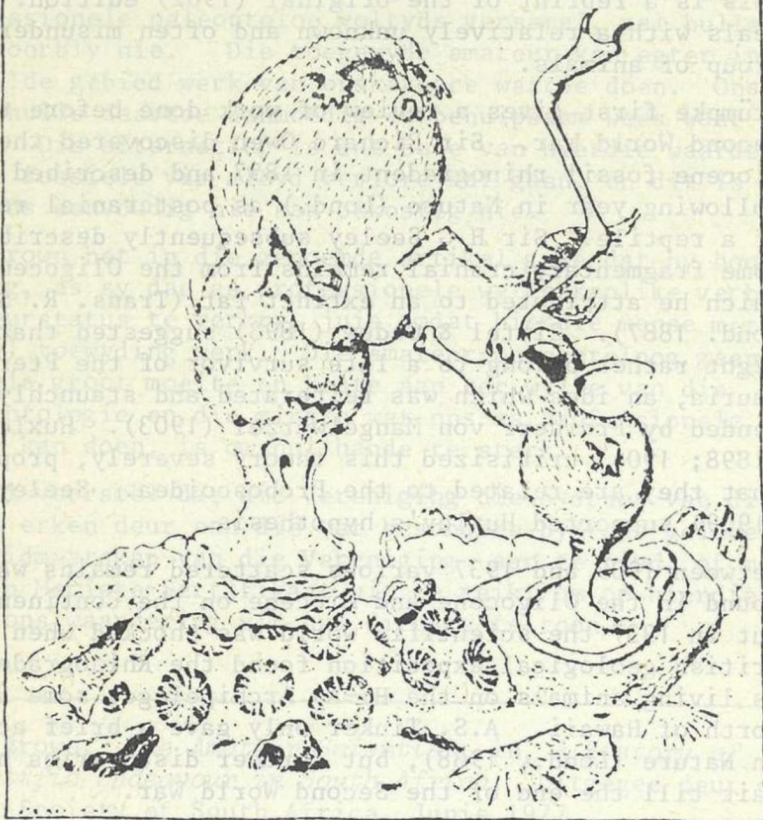
This is a reprint of the original (1962) edition. It deals with a relatively unknown and often misunderstood group of animals.

Stümpke first gives a review of work done before the Second World War. Sir Richard Owen discovered the first Miocene fossil rhinogradent in 1857 and described it the following year in *Nature* (Lond.) as postcranial remains of a reptile. Sir H G Seeley subsequently described some fragmentary cranial remains from the Oligocene, which he attributed to an extinct rat (*Trans. R. Soc. Lond.* 1887). Zittel & Gadow (1893) suggested that this might rather belong to a late survivor of the Pteranosauria, an idea which was reiterated and staunchly defended by Freiherr von Mangelwurzel (1903). Huxley (1898; 1904) criticized this theory severely, proposing that they are related to the Proboscoidea. Seeley (1909) supported Huxley's hypothesis.

Between 1909 and 1937 various scattered remains were found in the Oligocene and Miocene on the Continent. But in 1937 the scientific world was shocked when a British geological expedition found the *Rhinogradentia* as living animals on the Hi-Ay Archipelago, some 500 km north of Hawaii. A.S. Tinker only gave a brief account in *Nature* (Lond., 1938), but further discoveries had to wait till the end of the Second World War.

In 1947 the German-born Stümpke obtained a grant from the Swiss government to go and hunt for the *Rhinogradentia*. With characteristic German thoroughness Stümpke studied these animals and his work is copiously illustrated with drawings of the muscular, blood vascular and nervous systems, as well as the feeding habits of these most interesting creatures. But Stümpke will be remembered chiefly because he could show, beyond reasonable doubt, that the *Rhinogradentia* is an order of the Mammalia, their closest relatives being the aard-

*Columnifax lactans*  
und  
*Hopsorrhinus mercator*



Tafel VII

All in all the book makes excellent reading, with very interesting illustrations (as above). An ideal Christmas gift for the local Dominee.



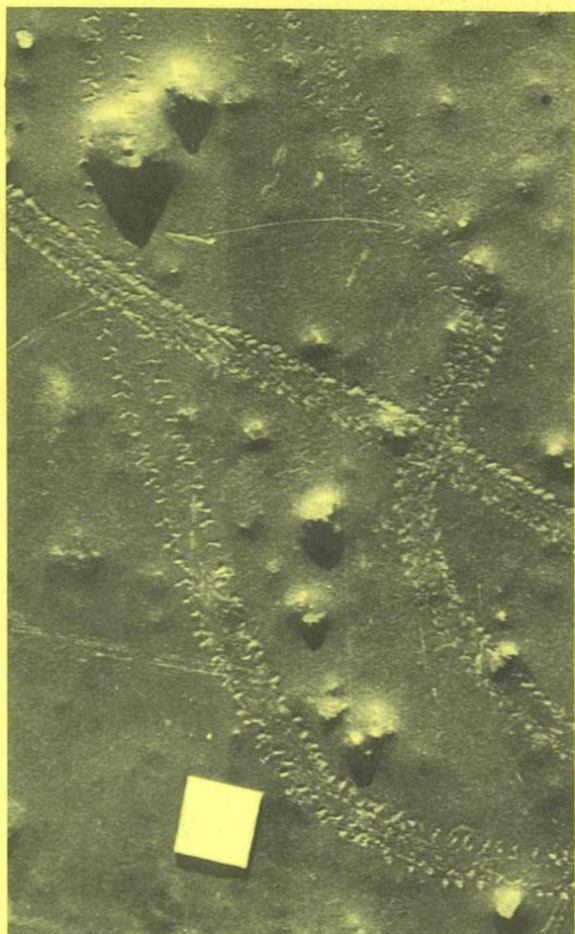
## COVER STORY

The trail is old and cold,  
 But it was clearly left  
 by some fantastic creature  
 out for a midsummer stroll:  
 The worthy Palaeontologist  
 is roused to the pursuit,  
 dreaming of the sweet delight  
 of an encounter with Time and Life.  
 This ardent fellow and his kin  
 get excited 'bout the weirdest thing,  
 like *Syntarsus* or *Diademodon*,  
*Dicrodium* or disaccate,  
 so why not also little *Umfolozia*,  
 poor waif,  
 who had ten legs,  
 no vertebrae at all,  
 and couldn't even photosynthesize?

— Ann M. Anderson

## PHOTOGRAPH:

*Umfolozia*, B.P.I.P.R. specimen S.U./K.D. 78, natural size. Supplied by Ann Anderson, who also made those funny drawings. Thanks, Ann!



Ann Anderson