

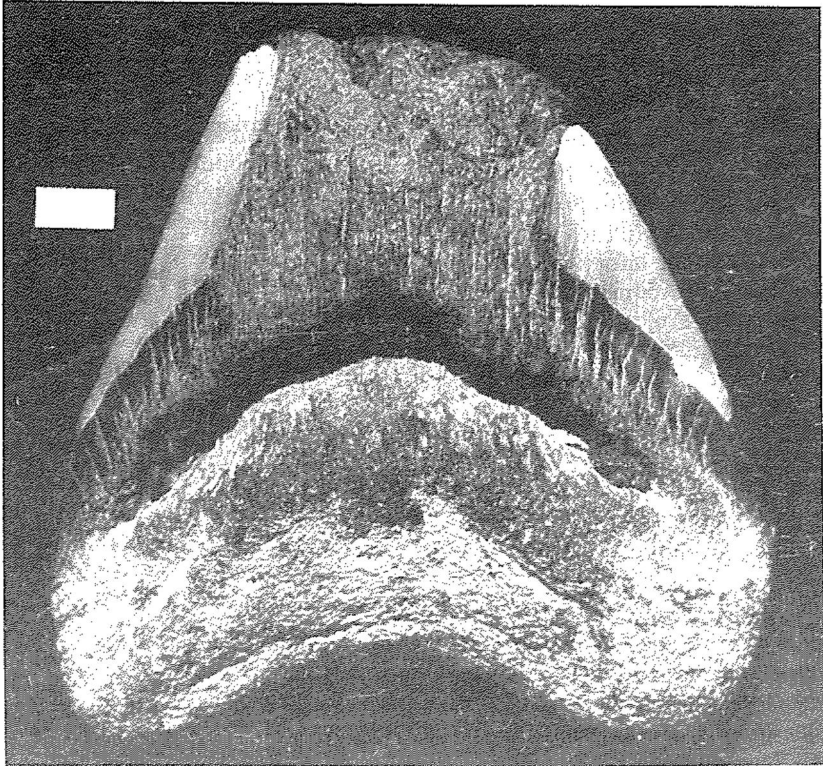
*Spruyt*

# PAL NEWS NUUS

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Biannual Newsletter of the Palaeontological Society of Southern Africa.

Halfjaarlikse Nuusbrief van die Paleontologiese Vereniging van Suider-Afrika.



## COVER PICTURE

Giant shark (*Carcharodon*) tooth found on the beach at Richard's Bay. Photo: Dr. E. van Dijk (Natal University, Pietermaritzburg).

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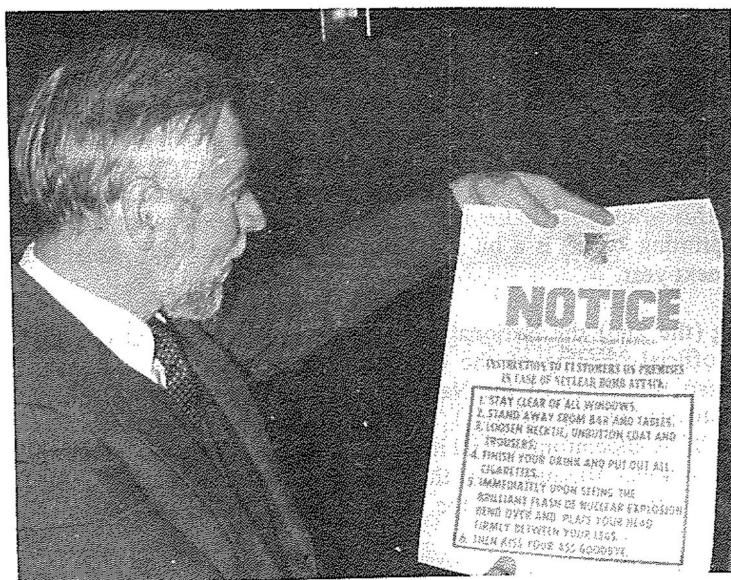
## FIRST PSSA CONFERENCE

This Conference was held at the National Museum, Bloemfontein, from 2 to 5 July. There were 24 delegates from South Africa and two from the U.S.A., viz. Jim Hopson and Fred Grine. Twenty papers ranging from stratigraphy through palaeobotany and vertebrate and invertebrate fossils were read. The majority of these will be published in a special National Museum Memoir; we had hoped that this would materialize before the end of the year, but at present the Museum's printing office is a bit overloaded so it will probably only be published early next year.

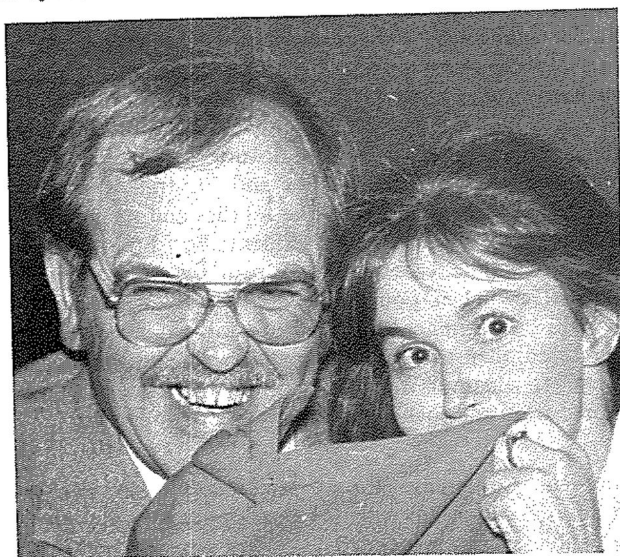
Monday evening (the 2nd) the National Museum treated us to an outstanding Braai and the official opening of the Conference was undertaken by Prof. Rocco van Pletzen, Chairman of the National Museum Board. (His speech is given in full elsewhere in this volume.) Tuesday morning the serious business started with a talk on Bloemfontein and its environment by Hannes Oberholzer, Director of the National Museum, and the Presidential Address by Bob Brian. The latter has since given a resumé of the serious business in the *S. Afr. J. Sci.* 75: 393 (September issue).

The not-so-serious-business of eating and drinking and swapping jokes, toasts and stories (and the odd limerick!) was carried on after hours, i.e. at the Mayoral Reception on Tuesday evening and the Conference Dinner Wednesday night. On this last occasion special awards were given to Burger Oelofsen for his far-fetched shark and *Amphioxus* fossils, to André Keyser who distinguished himself not so much with the amount but with the obvious relish with which he tucked into the edibles, to Jacques van Heerden on whom the Free State wines had more effect than on those from the Boland, and to Fred Grine who spoke at some length on mammal-like reptiles and illustrated by means of slides the exact difference between mammal-like reptiles and mammals (the latter definitely of Recent age). Our out-going President, Bob Brain, was presented with a special memento and in case you can't read the text on the photograph, drop into Bob's office when you get to the Transvaal Museum. He promised us that this will be prominently displayed. And while we're with Bob and certificates, I gathered that the idea originated with him and was executed by Imogen Chesselet; whatever the case may be, I certainly appreciate my Certificate of Appreciation and that is now decorating my office wall.

Since the Conference I have received quite a number of letters expressing members' satisfaction with the Conference, but I would like to emphasize that the whole success depended to a very large extent on the Braai Monday night and the teas and lunches provided by the Staff Society of the National Museum. On behalf of all the delegates I would like to thank them most sincerely!



*Bob Brain and The Case of the Nuclear Bomb Attack.*



*Hannes Oberholzer and Elizabeth Vrba - what have you been doing!*





*André Keyser*



*Burger Oelofsen*



*Fred Grine*



*Mary-Ann van den Nieuwenhof chuckling because Jacques van Heerden has gone potty.*

## THE PAST, THE PRESENT AND THE FUTURE OF PALAEOLOGY IN THE R.S.A.

Opening address to the First PSSA Conference held at the National Museum, Bloemfontein, delivered on Monday, 2 July 1979 by prof. R. van Pletzen

Mr President, The Director of the National Museum, mr Oberholzer, The Assistant-Director dr. Engelbrecht and mrs. Engelbrecht, Members of the Board of Trustees of the National Museum, ladies and gentlemen delegates, ladies and gentlemen,

On behalf of the Director, Assistant-Director and Board of Trustees of the National Museum I wish to extend to you a hearty welcome to perhaps the most Afrikaans (not African) city in our Republic. In spite of this fact I would like to address you partly in English for the benefit of those not acquainted with the youngest language in the group of "Dietse" languages. There is apparently no English word for "Diets" However I would like to warn you beforehand that my English is by no means of Oxford standard and worthy of such a distinguished gathering of delegates and other guests. Nevertheless I do not feel lonely since we have in our midst a number of Afrikaans-speaking delegates and at least two Americans, prof. Jim Hopson of the University of Chicago and mr. Fred Grine from the Dept. of Anatomy, University of the Witwatersrand!

Mr President it was with mixed feelings that I accepted the invitation to undertake the opening address to the conference to be held by a gathering of fossoreal biologists or as you prefer to be called, palaeontologists. For a mere zoologist practicing his trade by infusing biological knowledge into unwilling and very often unyielding students and doing research on mosquitoes, palaeontology is one of his lesser problems. Furthermore I have a profound dislike in fossils for the simple reason that they are invariably crushed and frustratingly incomplete and that they have an uncanny ability to remind me of "the way to dusty death" as Shakespeare puts it in Macbeth or "stof is jy en tot stof sal jy terugkeer" heard at the internment of every decent human being.

In any case mr President apart from my own likes and dislikes I would like to be audacious enough to discuss a few points on "The past, the present and the future of palaeontology in the R.S.A.". I need not remind you that fossils were known in the days of antiquity. Xenophon (490 B.C.) took notice of fossils and understood that they were the remains of once living organisms. Strangely enough the genial Aristotle regarded them as "*lusus naturae*". During the Middle Ages fossils were variously explained as jokes or freaks of nature or types of life discarded by the Creator during experimental attempts or even devices of the Devil placed in the earth to lead men astray. Fortunately at present you are

relieved of such puritan or ecclesiastical pressure so often placed in the past on scientists trying to explain nature and propounding new ideas. As H.L. Mencken puts it: "Puritanism is the haunting fear that someone, somewhere may be happy" or applied to our present subject "... that somewhere may be discovering a fossil furthering the grandiose concept of evolution"

During the eighteenth and nineteenth centuries however palaeontology became firmly established as a science and indeed a very important one. The organic origin of fossils was generally accepted and the basic principles of the science were developed by a large number of palaeontologists such as Linnaeus, Guittard, Hutton etc. It was left to Georges Léopold Chrétien Dagobert Cuvier (1769-1832), the very famous French naturalist, comparative anatomist and palaeontologist to become the real father of your science. He made brilliant studies of vertebrate fossils and in spite of his firm belief in his favourite theory of Catastrophism his ideas dominated palaeontological thought until 1859 when "The Origin of Species by means of Natural Selection" was published and the principles of organic evolution were propounded by Charles Darwin. Needless to say that palaeontology was immediately harnessed as a valuable science to further the new ideas of organic evolution. Perhaps for the first time phylogenetic studies were made possible. Since that time a distinguished array of palaeontologists exerted their energies in these fields of study and famous fossil beds such as the Fayum in Egypt, the Siwalik in India, the Texas Red Beds and Wyoming Badlands in the U.S.A. and the Karoo Beds in the R.S.A. were discovered. These beds and many other places yielded an astounding number of fossils by means of which the main lines of at least vertebrate evolution could be established.

In modern times names like Parrington, Stensiö, Jarvik, Romer, Colbert, Patterson, Efremov, Tchadinov, Orlov, etc. are household names among palaeontologists. In the R.S.A. A.G. Bain, Thomas Baines, Atherstone, Orpen, Kannemeyer, Brown, Higgins, Putterill, Broom, Boonstra etc. are well-known palaeontologists who have done an immense amount of work on S.A. fossils. Like many other S.A. museums our local National Museum boasts with very interesting fossil material and palaeontologists responsible for famous palaeontological finds. As far as I know dr. E.C.N. van Hoepen initiated palaeontology at the National Museum in 1921. He was the first director of this museum and his main line of interest was the ammonites. The wellknown and rather enigmatic prof. T.F. Dreyer and later dr. A.C. Hoffman were responsible for many studies on the Quaternary Mammals and Florisbad Man. Later dr. Crompton of *Diarthrognathus* fame, and my esteemed colleague prof. S. Fourie followed in the footsteps of the older generation. At present dr. J. van Heerden, present editor of your Newsletter and one of the chief instigators (or rather agitators, since I know him better than you do) is waving the banner. I must

admit that he is doing a splendid job but it must also be confessed that his energies are far in excess of the limited financial means of the National Museum.

Mnr. die President, om te kom tot die toekoms en tot die konferensie wat in die eersvolgende paar dae by die Nasionale Museum sal plaasvind. Wat lê vir u as paleontoloë en vir die vakgebied in die toekoms voor die deur, en wat is die vooruitsigte vir die paleontologie? Ons wees almal dat u wetenskap in alle opsigte tred gehou het met die fenomenale ontwikkeling wat die Natuurwetenskappe in die algemeen gedurende die na-oorlogse jare ondergaan het. Die moderne metodieke wat u volg om figuurlik die laaste druppel bloed uit elke fossiel te tap is hoogs gesofistikeerd en u resultate eenvoudig wonderlik. Mag ek u vir 'n oomblik verwys na 'n Nasionale Museum Forumlesing wat prof. Hopson 'n paar weke gelede hier gegee het? Hy het sekere strukture teenwoordig by sommige dinosauërs verklaar langs etologiese lyne, wat vir my as 'n nie-paleontoloog 'n werklike openbaring was. Ons weet ook dat u kundigheid direk of indirek hoogs noodsaaklik is vir die stoflike welsyn van enige moderne staat. U het tog meegewerk aan die opklaring van die stratigrafie, paleoklimatologie en paleogeografie van die R.S.A. U wat vertrou is met die mikrofossiele van ons land (Ehrenberg (1795-1876) en d'Orbigny (1802-1857) het al hulle waarde besef) weet seker watter bydrae u kan lewer tot die algemene volkshuishouding. Span u kundigheid in en ontdek vir ons olie sodat ons langs korrekte diplomatieke kanale aan die OPEC-land in ongesofistikeerde boere-Afrikaans kan verduidelik wat hulle met hulle olie kan maak! U kan meehelp aan die ontdekking van nuwe steenkoolvelde, uraanneerslaë ens. Maar voodat ek te pragmaties raak, mag ek u daarop wys dat u as paleontoloë op die gebied van die suiwer akademiese paleontologie seker nog net op die oppervlakte gekrap het. U werk uiteraard met reste van reste. U sal die eerste wees om te bevestig dat die oerprentjie van die fauna en flora van ons land en van die wêreld nog lank nie naastenby volledig is nie. U wat hierdie kongres bywoon — u het volle geleentheid om u naam en die instituut wat u verteenwoordig op ons landkaart of selfs op die wêreldkaart te plaas. Die Nasionale Museum self sal voortgaan met sy navorsingswerk en hoop om eendag voort te werk aan Florisbad. Op die oomblik is die verkryging van Florisbad vir navorsingsdoeleindes deur die Nasionale Museum nog steeds 'n ontsnappende werklikheid. Gelukkig bly Florisbad wat dit is en hou in veilige bewaring in sy skoot wie weet hoeveel paleontologiese skatte. Mag daar in die toekoms, sê oor 'n honderd jaar as die honderdjarige bestaan van u Vereniging hier by die Nasionale Museum gehou word, gerapporteer word dat dr. C.K. Brain of dr. A.S. Brink of dr. Chris Gow of enigeen op die lys van 25 persone wat hierdie konferensie bywoon, verantwoordelik was vir 'n besondere ontwikkeling op paleontologiese gebied en dat die instituut wat u verteenwoordig onder die bekendes van die wêreld gereken word. Mag u konferensie besonder suksesvol verloop en mag u

vriendskappe smee wat van werklike vakkundige belang sal wees. U is tog bewus van ons volksleuse "Ex unitate vires"

Maar terselfdertyd moet u kennis neem van 'n bewustheid wat enige bioloog behoort te hê, nl. dat niks, letterlik niks in die biologie maklik of eenvoudig is nie en dat die natuur soms baie traag is om sy geheimenisse aan die navorser te openbaar. Ons het almal geleer dat Amoeba 'n eenvoudige diertjie is. Niks kan verder van die waarheid af wees nie. Ons weet nog nie eers hoe Amoeba voortbeweeg nie! Die probleme wat u in die toekoms gaan teëkom sal u kan oplos, maar slegs tot op 'n sekere punt. Paulus waarsku ons in sy brief aan die Korinthiërs: "Ons ken ten dele" en "Ons sien deur 'n spieël in 'n raaisel". ("For we know in part and we prophesy in part" en "For now we see through a glass, darkly"). Maar moenie dat dit u ontmoedig nie. As u my sal toelaat om vir een enkele oomblik dogmaties te wees: nooit sal enige sterfling tot absolute kennis kom nie. Doen maar gerus meer as u daaglikse plig en die resultate sal nie wegbly nie.

Mnr. die President, dames en here, nogmaals baie hartlik welkom in die Nasionale Museum en in Bloemfontein. Mag u verblyf, ten spyte van die ongunstige omgewingstemperatuur, besonder aangenaam en vakkundig bevrugterend wees. Die omgewingstemperatuur is ongelukkig 'n parameter wat ons nie kan beheer nie, maar volgens Mark Twain 'n baie belangrike een. Dit dien as aanknopingspunt vir ten minste 70 persent van gesprekke tussen vreemdelinge.

Ek dank u vir u welwillende aandag en verklaar hiermee die konferensie as geopen.

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*Money is the root of all evil and a man needs roots.*

*Children should be obscene and not heard.*

*He who puts his nose to the grindstone is a bloody fool.*

*He who laughs last doesn't get the joke.*

*Laugh, and the world thinks you're an idiot.*

## FLORISBAD

On the first day of the PSSA Conference Hannes Oberholzer, Director of the National Museum, introduced delegates to Bloemfontein and its environment, also mentioning the significance of the palaeontological and archaeological finds at Florisbad, a site some 50 km northwest of Bloemfontein. On Thursday some twenty of us visited the locality. Hannes told delegates of the Museum's efforts to obtain Florisbad in order to carry out further excavations there and as a result the following resolution was unanimously approved by the Conference delegates:

"The Palaeontological Society of Southern Africa, at its first conference in Bloemfontein in July, 1979, resolved to urge the relevant authorities to take prompt steps to safeguard the important Holocene palaeontological and archaeological site, Florisbad, by placing it under the direct supervision of a competent national scientific agency, namely the National Museum, Bloemfontein. Only under such an arrangement can the scientific potential of the site be realized through integrated programmes of controlled scientific research. Without such an arrangement the site stands in scientific jeopardy, and such sites are rare in South Africa."

Proposed by: Prof. M.A. Raath

Seconded by: Dr Jacques van Heerden

## BOONSTRA-BEURS

deur

Dr M.A. Cluver (S.A.M.)

(Hierdie nuwe beurs vir verdienstelike paleontologiese werk is op 14 Augustus vanjaar vir die eerste keer toegeken aan Juri van den Heever van die Suid-Afrikaanse Museum. Die onderstaande toespraak is dié aand deur Dr. Mike Cluver gelewer.)

My bydrae tot vanaand se verrigtinge is kort, maar by hierdie geleentheid is dit tog belangrik dat ons bewus is van die groot rol wat Dr Boonstra in die ontwikkeling van Suid-Afrikaanse Paleontologie gespeel het. Dit is seker nie nodig om oor die belang van sy navorsing oor 45 jaar uit te brei nie, en miskien ook nie paslik dat iemand met my relatief beperkte ondervinding Boonstra se

werklik reusagtige bydrae moet oordeel nie. Ek het dus besluit om liewers baie kortliks na sy loopbaan oor die jare te kyk, en te wys hoe dit ontwikkel het vanaf 1927 toe hy by die Suid-Afrikaanse Museum aangesluit het, tot 1972, toe hy na 45 jaar afgetree het.

Boonstra se aanstelling by die Suid-Afrikaanse Museum het onder buitengewone omstandighede plaasgevind. In 1927 was Dr E.C.N. van Hoepen, 'n paleontoloog, Direkteur van die Nasionale Museum in Bloemfontein, en hy was 'n voorstander van 'n plan waarvolgens alle paleontologiese en argeologiese navorsing deur net die Nasionale Museum onderneem mag word; verder, alle paleontologiese en argeologiese versamelings van ander museums moes na die Nasionale Museum oorgeplaas word. Omdat Van Hoepen invloedryke vriende in die regering gehad het, was daar 'n sterk moontlikheid dat sy plan tot uitvoering sou kom.

Die Suid-Afrikaanse Museum veral was in 'n gevaarlike posisie, want alhoewel dit groot fossielversamelings gehuisves het wat deur Broom en Haughton opgebou is was daar nie 'n voltydse paleontoloog nie. Die Raad van die Museum het 'n duidelike gevaar gesien en om te verhoed dat die versamelings Bloemfontein toe gaan is Lieuwe Dirk Boonstra, met 'n Stellenbosch se M.Sc., as paleontoloog aangestel. Van Hoepen weer het die aanstelling as 'n gevaar vir sy plan gesien, en onmiddellik woedend gereageer. Hy het dit reggekry om Boonstra se posisie tot 'n tydelike, 3-jaar aanstelling te verander, en kon ook sekere voorwaardes stel: Boonstra mag net op fossiele wat reeds in die versameling was, werk, en hy mag geen veldwerk, d.w.s. versamelwerk, onderneem nie.

Die van u wat Dr. Boonstra persoonlik geken het sal nie verbaas wees om te hoor dat hy hom glad nie aan hierdie voorwaardes gesteur het nie en binne die eerste jaar van sy aanstelling het hy met uitgebreide veldwerk in die distrik Graaf-Reinet begin. Van Hoepen het hiervan gehoor en onmiddelik protes aangeteken, maar die S.A. Museumraad het teruggeveg en Van Hoepen kon toe nie dié ronde wen nie. Boonstra het met sy veldwerk aangegaan as deel van sy navorsing en vir 'n paar jaar het daar 'n oppervlakkige vrede geheers. Gelukkig ook vir Boonstra is Van Hoepen se vriend in die Departement Binnelandse Sake in 1930 verplaas, en die Museum kon sy pos van paleontoloog permanent maak. Boonstra se posisie is dus eers na drie jaar verseker.

Gedurende hierdie onseker drie-jaar periode was Boonstra glad nie onaktief nie. Sy navorsing het hoofsaaklik oor die filogenie en klassifikasie van die Pareiasauria gehandel, en hiervoor is 'n doktorsgraad deur die Universiteit van Stellenbosch aan hom toegeken. Maar Boonstra het van vroeg af beseft dat taksonomiese werk oor Karoofossiele belemmer is deur die feit dat belangrike



tipe eksimplare in sekere buitelandse Museums, veral in London en New York, gehuisves is — hierdie probleem geld vandag nog. Vergelykings tussen nuwe Suid-Afrikaanse eksimplare met oorsese tipes moet dus op grond van beskrywings en illustrasies in die literatuur gemaak word — en aangesien sommige van hierdie beskrywings baie onvolledig is en die illustrasies soms niks meer as rowwe sketse nie kan ons die frustrasie van 'n jong paleontoloog in 1930 goed verstaan. Boonstra, as lid van die S.A. Museum, was ook bitter omdat die beroemde Robert Broom 'n groot versameling Karoofossiele, insluitend tipes, aan die AMNH in New York verkoop het, alhoewel die versameling eintlik vir die S.A. Museum bedoel was. Boonstra het ook nooit gehuiwer om hierdie feit in sy eie publikasies uit te bring nie: in beskrywings van die American Museum materiaal staan baie keer van spesifieke eksimplare geskryf: "Sold to the American Museum of Natural History by Dr R. Broom in 1913.

Boonstra het die belang van eerstehandse studie van hierdie oorsese versamelings besef. Met behulp van die Koningin Victoriabeurs van die Universiteit Stellenbosch vertrek hy in 1933 op 'n studietoer van al die buitelandse inrigtings waar Karoofossiele bewaar word. Hierdie studiereis het op ietwat ander grondslag plaasgevind as wat ons vandag gewoon is: Boonstra het geen geldelike ondersteuning of selfs salaris van die Museum ontvang nie, en kon nie eers die versekering kry dat sy pos vir hom oorgehou sal word nie. Boonstra se beginjare by die Museum was dus nie van die maklikste nie, en ek kry soms die indruk dat hy die paleontologie meer as 'n persoonlike uitdaging en verantwoordelik as 'n gemaklike loopbaan beskou het.

Met die ondervinding van hierdie 2-jaar studiereis het die hele aard van Boonstra se navorsing verander. Alle belangrike oorsese eksimplare is in publikasies oorbeskryf met nuwe morfologiese besonderhede. Sy eerste publikasie oor soogdieragtige reptiele, wat oor die gorgonopsieërs handel het, het in 1934 verskyn terwyl hy in London gewerk het, en is gevolg deur artikels oor cynodontiërs, therocephaliërs en dinocephaliërs — almal soogdieragtige reptiele. Met sy terugkeer na Suid-Afrika, waar sy museumpos gelukkig nog vir hom gewag het, was Boonstra al diep in die paleontologiese literatuur gevestig — in die 5 jaar tussen 1934 en 1939 het 'n totaal van 20 publikasies onder sy naam verskyn.

Ook in hierdie periode het Boonstra die basis gelê van die belangrikste deel van sy lewenswerk: die filogenetiese oorsprong en sistematiek van die oudste Karooreptiele, naamlik dié van die *Tapinocephalus*-sone. Vir diegene van u wat nie met Karoostratigrafie bekend is nie, kan ek noem dat die *Tapinocephalus*-sone tussen Laingsburg, Beaufort Wes, Sutherland en Fraserberg lê; vir die fossielversamelaar is dit die moeilikste deel van die hele Karoo,

deels as gevolg van die uiters harde rots waarin die fossiele voorkom. Miskien het Boonstra hierdie stuk Karoolandskap met sy ingeslote, moeilik bekombare rykdom van fossiele weer as 'n persoonlike uitdaging beskou, maar die feit bly staan dat hy deur 'n reeks van meer as 30 publikasies tussen die jare 1950 en 1960 hierdie fauna van dinocephalieers, gorgonopsiers en therocephaliers bekend gemaak het. Vir Boonstra het dit al hoe duideliker geword dat die voorvaders van hierdie vroegste Karoodiere in Rusland gesoek moet word. Volgens beskrywings in die Russiese literatuur is daar fossiele ontdek wat effens ouer as die Suid-Afrikaanse soorte is, en ook meer primitief. Weereens het die probleem ontstaan dat beskrywings en illustrasies onvoldoende en onvolledig is, en moes daar beplan word om die oorspronklike materiaal te ondersoek. In 1961 het Boonstra 6 weke in Moskou deurgebring - hierdie keer met die gewone finansiële steun van die Museum. Al die Russiese materiaal is nagegaan, en heelwat daarvan beskryf, en die inligting so verkry het in groot mate as basis vir Boonstra se laaste dekade van navorsing gedien. Met die perspektief wat die Russiese fossiele gegee het, kon Dr Boonstra 'n finale reeks van 17 publikasies lewer oor die klassifikasie en filogenie van Suid-Afrikaanse Karooreptiele.

Met sy aftrede in 1972 het Suid-Afrika sy vooraanstaande paleontoloog verloor. Ek betwyfel dit sterk of ons sy gelyke gou weer sal sien — maar die beurs wat sy naam dra sal sorg dat 'n nuwe geslag van paleontoloe groter aanmoediging sal geniet as wat in die verlede die geval was. Miskien is dit ook paslik dat die eerste houer van die beurs op fossiele van die *Tapinocephalus*-sone werk, die terrein waarop Boonstra sy grootste bydrae gemaak het.

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## ELECTION RESULTS

According to the Constitution, the new President is the former Vice-President, Dr Michael A. Cluver, Assistant Director of the South African Museum. The new Vice-President elected earlier this year is Jacques van Heerden (National Museum, Bloemfontein) and the new Secretary is Dr Louis Scott of the Institute for Environmental Sciences, U.O.F.S.

## RESEARCH PROJECT REGISTRATION AT THE BPI (PALAEONTOLOGY)

by

PROF. M.A. RAATH

*(Director, Bernard Price Institute for Palaeontological Research)*

As I mentioned at the PSSA Conference, it is my intention to introduce a system at the BPI which will require the registration and formal documentation of research projects by members of the Institute Staff, but also by outside workers who intend to work on BPI material, or use BPI research facilities (other than the library).

There are many reasons for this move, but some of the more important are:

1. In these days of limited research funds and substantial competition for what there is, it becomes desirable to think and plan ahead so as to get an early and accurate idea of what a proposed research project will cost to see it through to completion. There seems little point in embarking on a project only to see it founder because long-term cost consequences were not thought of at the beginning.
2. By requiring Researchers to put in this kind of forward budget planning it will force Researchers to consider their plan of action in pursuing their research aim. In other words it will (or should) result in research plans which are far more carefully thought out and **planned** involving the formulation of specific objectives and a timetable for completion.
3. People wishing to begin a new project will be required to provide a motivation for it. In the case of outside Research workers intending to use Institute collections, the motivation will probably be in written form only, but in the case of our staff they will be expected to explain the aims and execution of the project to a meeting of their colleagues, who will be invited to criticise, comment, and offer suggestions. This will help to act as a "filter" and will result in a greater degree of selection in deciding what work should be supported by the Institute. It will also help in crystallising potential pitfalls and problems associated with any project and give constructive suggestions on how they might be avoided or overcome.

4. By maintaining cumulative files reporting progress (probably at half-yearly intervals), an up-to-date and progressive record of work being done in the Institute will grow. The file for each project will allow the project leader to gauge the rate of progress, and, since progress-report meetings of research staff will also be held, it again exerts some pressure on people to get on and finish a project, or else to reach a decision that the likely benefits do not justify the effort and thus to abandon the project or put it into abeyance.
5. From the point of view of this Institute the proposed system will help to establish legitimate priority claims for specific periods over material housed in the Institute's collections and to avoid clashed and duplication of effort. The field of palaeontology in this country is so wide open that there can be very little justification for duplication, particularly by people working within the same institution.
6. The system will also, we hope, eliminate the tendency of some researchers to claim dominion over particular fields of interest in perpetuity. Researchers will be forced to focus their interests and tackle their interests progressively.
7. The greater degree of interpersonal communication that should result from the planning and discussions can surely bring nothing but benefit. Of course it could be argued that some researchers might feel reticent about disclosing and discussing too much of the detail of their projects for fear of plagiarism. I don't believe that unethical behaviour is an issue in this proposal, and it should not influence the people concerned in the exercise. I believe there are sufficient means of exposing and dealing with unethical behaviour in any forum of scientists in this country without having to build in any special provision for it in the proposed scheme at the BPI, where virtually all the people who will be affected are colleagues and friends in any case. Nevertheless, it will be a feature of our scheme that information which the project leader wishes to be treated as confidential will be so treated. There will not be automatic open access to all project files.

The suggested form for project motivation is not unlike that used in the CSIR grant application forms, but it is highly condensed and considerably simpler. Progress reports will also be recorded on standard forms so that repetition and "flannel" are eliminated.

## SOME MORE STANDARDIZATION

by

Dr. A.S. Brink

At the PSSA Conference held in Bloemfontein I advocated the standardization of terminations in taxonomy so that "by the sound of it, we shall know where we stand".

How about some more standardization so that "others will know what we are saying, by the sound of it?"

Can it be that one fossil hunter's "*Sistesecephalus-zone*" is perfectly the same as another's "*Kistekephalus-zone*"? There are even more zones in the Beaufort Series: a "*Kistesecephalus-zone*" and a "*Sistekephalus-zone*" . . . .

The need to standardise gave origin to the International Commission on Zoological Nomenclature. Consequently the Commission has become concerned about standardization and it has created a Code for this purpose. One important rule states that whatever the linguistic origin of a word used in taxonomy, it must be latinised. Was it necessary to stipulate that latinised spelling should be accompanied by latinised pronunciation? Why stipulate something so *ipso facto*?

Unfortunately nobody knows for sure how Latin was originally pronounced. Today there are two "schools" - the Germanic and the Latin (the latter as represented by its modern derivatives: Italian, French, Spanish, Portuguese and English). English, already heavily contaminated germanically, landed here in South Africa alongside germanic Afrikaans, both now official languages in a multilingual country. We South Africans are therefore in a position to lead the rest of the world astray with our pronunciation of biological terms.

In French the rule that C is pronounced S when it is followed by e, i and y, and as K when it is followed by a, o and u (considering vowels only) is so consistent that they conceived the cedille (the comma-like addition to the c, i.e. ç) to indicate that in a rare case such as in "française" the c, while followed by a, is nevertheless to be pronounced as an s (cf. Portuguese: Moçambique). In English this Latin rule is applied consistently, exceptions being so rare that no provision is made typographically. It is still open to debate whether Celtic is pronounced Seltic or Keltic. If the approach is more Anglo-Saxon it should be

Seltic; if more Gaelic-Germanic it should be Keltic.

Off-hand I cannot think of another case where, in English, there is a deviation from the rule that C is pronounced S before e, i and y, and as K before a, o and u. One would think for a moment that *Coelome* and *Caesar* could be exceptions, but note that originally in Latin it was *oe* and *ae* giving both the o and the a an ee sound, thus the pronunciation S without the need for some cedille-like punctuation.

The Germanic approach is to favour any Greek origin, eg. "Cephalus" or its abbreviation "ceps" is of Greek origin where K is used in spelling and in pronunciation. The same applies to "Kist-" and although latinised to "Cist-" in spelling, Germanic preference is for retaining the Greek pronunciation.

So now it all depends on whether we are speaking Afrikaans or English. While speaking English, *lacerticeps* is pronounced "lasertiseps" and while speaking Afrikaans it is "lasertikeps" – not "lakertikeps" (*Lacerta* being of Latin and not of Greek origin) and of course, last of all, "lakertiseps"! While speaking English *Cephalochordata* is pronounced *Sephalochordata* and while speaking Afrikaans it is *Kephalochordata*.

To ignore these elementary rules is as wrong as allowing *sonkeive* as a free alternative to *konseive* for the pronunciation of the ordinary English word *conceive*. Then, in English, along with *Kistecephalus*, *lacertikeps* and *kephalochordata*, one might as well allow, as alternative pronunciation, *sontrakeptive* (for contraceptive) and *kersumkission* (for circumcision).

### PLANNING A VISIT TO FRANCE?

We have received a request from the French Embassy in South Africa to be kept informed of the activities of our Society and have added their address to the Pal News mailing list. Any member of the Society who plans to visit France and would like more information on the locality of research institutes, museums, etc., is welcome to write to:

Prof. M. Nusimovici  
Scientific Councillor  
French Embassy  
P O Box 29086  
0132 SUNNYSIDE

## AMENDMENTS TO THE CONSTITUTION

Due to the results of the last election and the fact that there was no alternative proposal for Editor of Pal News, we have a "constitutional problem". It is also felt that now that the Society has grown to its present proportions, it would be justified to enlarge the Committee. Some of these proposals were briefly discussed at the Conference. We would appreciate the comments and other proposals of members, and after these have been received, we'll have a vote on the matter.

The amendments concern Rule 5.1 of the Constitution, the proposal being to change it as follows:

5.1 THE COMMITTEE: The management of the Society will be vested in a Committee which is made up as follows:

5.1.1 A President who will act as Chairman at all meetings of the Committee and the Society which he attends. The President will have an ordinary as well as a casting vote.

5.1.2 A Vice-President, who will act as Chairman at any meetings of the Committee or the Society when the President is absent. In such cases the Vice-President will have an ordinary as well as a casting vote.

5.1.3 The immediate past President.

5.1.4 One representative for each of the following regions:

5.1.4.1 Northern Transvaal (e.g. Transvaal Museum, Geological Survey, University of Pretoria).

5.1.4.2 Southern Transvaal (e.g. BPI, RAU).

5.1.4.3 Western Cape (SAM, UCT, Univ. of Stellenbosch).

5.1.4.4 Eastern Cape (UPE, PE Museum, Univ. of Rhodes).

5.1.4.5 Natal (Natal Museum, Univ. of Natal).

5.1.4.6 Free State (UOFS, Nat. Mus.).

5.1.4.7 South West Africa/Namibia.

5.1.4.8 Zimbabwe-Rhodesia.

5.1.4.9 One amateur member.

The President, Vice-President and Immediate Past President will automatically represent their regions. These three will also form the Executive Council of the Committee.

5.1.5 The Committee will appoint - -

5.1.5.1 An Editor for Pal. News, who will see to it that the Newsletter is published and distributed according to the conditions set forth in the Constitution and the decisions of the Committee.



- 5.1.5.2 A Secretary who will handle all correspondence on behalf of the Committee and who will keep the minutes of all meetings. If the Secretary is unable to attend, the meeting will appoint a temporary Secretary.
- 5.1.5.3 A Treasurer who will handle the bookkeeping of the Society.
- 5.1.5.4 Other office bearers as may be dictated by circumstances. These appointments need not be from members of the Committee.

As regards the election of Committee members, it is suggested that each region (as set forth under 5.1.4) will first elect their own representative (except the two regions who have the existing President and Vice-President) before the next Conference and that the Conference will then appoint a new Vice-President, the previous Vice-President then becoming President (compare rule 5.2.1). Rule 5.2.2 will be applicable only to members of the Executive Council (i.e. the Immediate Past President cannot be elected to the Executive Council in the term immediately following the one in which he served as Immediate Past President — but he may be re-elected as Committee member).

## 5.2 ELECTION:

- 5.2.1 All Committee members are chosen for a term of two years, starting on July 1 and ending on June 30 of the second year following. The Vice-President shall become President automatically after two years and the President will serve another term on the Executive Council as Immediate Past President after his term of office as President.
- 5.2.2 The Immediate Past President cannot be re-elected to the Executive Council after serving in that capacity, but may be re-elected as Regional Representative (i.e. as Committee member).
- 5.2.3 The first round of the election will take place by mean of circulars and voting forms sent to all members. The procedure will be as follows:
  - 5.2.3.1 In February the Secretary shall inform members that nominations for regional representatives are awaited, the closing date for nominations to be 31 March.
  - 5.2.3.2 The Secretary will draw up a voting form with the nominations for each vacancy which will be sent to members as soon as possible after 31 March. The closing date of the election will not be later than 15 June.
  - 5.2.3.3 The dated mentioned in the previous two clauses may be altered according to the discretion of the Committee in

cases when the bi-annual Conference will be held before 15 June of that year, but the time allowed for nominations and election will not be altered.

- 5.2.3.4 The Secretary shall place all returned nomination and voting forms in safe-keeping for the perusal of members.
- 5.2.4 The second round of the election will take place at the bi-annual Conference, when the members present will elect a new Vice-President from the members of the Committee.
- 5.2.5 If the president should resign during his term of office the Vice-President automatically becomes President for the remainder of the term as well as for the following term. Should the Vice-President resign or become President, a new Vice-President must be elected by the members of the Society, except when this is shortly before a Conference.
- 5.2.6 Should a vacancy for a regional representative occur in the middle of a term, the Committee may appoint new representative for that region for the rest of the period, preferably after consulting the members of the particular region involved.

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## REQUESTS FOR INFORMATION

Has anyone any information regarding the publication of the *Proceedings of the Fourth Gondwana Symposium* held in Calcutta in 1977? (M.A. Cluver).

Has any investigation been carried out on the fossils associated with the Henkries Uranium mine in Namaqualand? Henkries is at the mouth of the Koa river valley where it enters the Oranje River. This was also the site of dinosaur fossils as reported by Du Toit. (W.P. Colliston).

Waar 'n mens nou geld kan kry om 'n skulpversameling op die Seychelles te gaan maak, vandat Inligting nie meer die inligting of die geld het nie.  
(Almal)

## CHANGE OF ADDRESS

Dr A.R.I. Cruickshank  
Fiarray  
Minto  
HAWICK, Roxburghshire  
SCOTLAND

Dr C.D. Potgieter  
Dept. Geologie  
Universiteit Stellenbosch  
7600 STELLENBOSCH

vanaf 1 April 1979

## RESEARCH PROJECTS

- A.R.I. Cruickshank: The Anomodontia (with André Keyser), intended for Handbuch der Paläoherpetologie.  
Revised classification of the saurischian dinosaurs (with Jacques van Heerden).
- R.V. Dingle: Cretaceous ostracods from Southern Africa.
- C.E. Gow: Ictidosaurian morphology, especially dentitions.  
Preparation of an *Eunotosaurus* skull for André Keyser.
- N. Hiller: Revision of the Bokkeveld brachiopod fauna and its palaeoecology.
- J.W. Kitching: Dinosaur eggs with foetal skeletons.  
Growth stages and tooth replacement in *Tritylodon longaevis* Owen.
- C.S. MacRae: Palynological correlations of the Northern Transvaal coal bearing basins.
- E.P. Plumstead: Two incompleted papers on Devonian and Carboniferous fossil plants in South Africa.
- C.D. Potgieter: Sedimentary analcite in the Clarens Formation (Early Jurassic), Karoo Supergroup.

- M.A. Raath:** Late Jurassic sauropod dinosaurs from Rhodesia. Completion of detailed investigation into the theropod, *Syntarsus*. Identification and description of lungfish and crocodile remains from the Late Triassic of Rhodesia.
- J.A. van den Heever:** Vergelykende en funksionele anatomie van die primitiewe therocephaliërskeedel.
- E.S. Vrba:** Still working on evolutionary rates; also on new species of antelope from the Makapansgat Lineworks and on fossil antelope from Elandsfontein and Chiwondo (Malawi).
- A.H. de Vries:** Surveying and investigating the Bokkeveld for marine and plant fossils, especially those occurring in the upper beds.
- B.W. Oelofsen:** *Mesosaurus*: distribution, morphology and taxonomy nearing completion. Incubation of eggs in different gas mixtures to test hypothesis on the extinction of dinosaurs. Description of fossil shark skull is at present being read by Bob Schaeffer.
- W.P. Colliston:** A structural, stratigraphic and kinematic analysis of part of the Namaqua Mobile Belt between Dabenus and Steyerkraal, NW Cape.

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#### NEW MEMBERS: NUWE LEDE

Mev. Boonstra (Kaapstad)  
 J.C. Taylor (Queen Victoria Museum, Salisbury)  
 Heidi Jacobs (Bloemfontein)  
 Nadine Troskie (Bloemfontein)

## AN ALTERNATIVE TO GLYPTAL

by

ANDREW HAUSER

*(National Museum, Bloemfontein)*

General Electric is to stop importing Glyptal, but fortunately we have discovered an excellent substitute in Plascon Parthenon's **Karnamel Clear KNL 20**. This provides sufficient binding and protective strength for the preparation and preservation of fossil material. It has been in use now for several months and so far we have had no reason for complaint. Recently it was also tried on archaeological material with satisfactory results.

Karnamel Clear is more transparent than Glyptal and can be diluted with **Retarder Thinners** for better penetration. Currently the local price is R5.95 for 5 litres.

### SIXTH GONDWANA SYMPOSIUM

Dr. Edna Plumstead has informed us that there are plans under way to hold the sixth Gondwana Symposium in South Africa in 1983. Mike Raath is at present investigating the matter.

### OTHER SYMPOSIA AND CONFERENCES

Annual General Meeting of the S.A. Association of Botanists will be held in Pietermaritzburg from 17-19 January, 1980.

First International Palaeobotanical Conference will be held in July 1980 in England. For more particulars, contact Dr. E. Kovacs-Endrody of Geological Survey, Pretoria.

The Symposium on Vertebrate Palaeontology and Comparative Anatomy is held in September each year in England. Arthur Cruickshank will keep us posted as to the exact dates and venues.

### OTHER NEWS

Prof. R.V. Dingle reports that his taxonomic and palaeoenvironmental study of Santonian and Campanian ostracods from Zululand was recently completed and had been submitted for publication. Current micropalaeontological studies underway in the Marine Geosciences department at UCT include (1) Cretaceous Ostracoda and Foraminifera; (2) Lower Tertiary Ostracoda; and (3) Late Neogene micropalaeontology of deep sea cores from the southwestern Indian Ocean. The people involved in this work are R.V. Dingle, D. Salmon, J. Frewin and F. Camden-Smith (the latter from a sedimentological viewpoint only).

Dr. Elizabeth Vrba says the Transvaal Museum is continuing its excavations at the site Gondolin near Broederstroom - there are several very bone-rich breccias. Progress is also being made with the clearing operations of Kromdraai fossils recently excavated and they have found the skull of a hippopotamus!

## DR. LOUIS SCOTT

Ons nuwe Sekretaris, Louis Scott, het onlangs sy doktorsgraad aan die U.O.V.S. behaal met 'n proefskrif getitel, "Late Quaternary pollen analytical studies in die Transvaal (South Africa)" Hy het op 28 Augustus na die VSA vertrek en sal weer in Maart 1980 terug wees. Sy adres oorsee is as volg:

c/o Dr. Vera Markgraf  
Dept of Geosciences  
University of Arizona  
TUCSON Arizona 85721 USA

Ons wens Louis graag geluk met die graad behaal en hoop dat hy die tydjie in die vreemde leersaam en nuttig sal vind!

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## RECENT PUBLICATIONS

- Cruickshank, A.R.I. 1979. The pes in *Erythrosuchus africanus*. *J. Linn. Soc. Zool.* 62: 161 - 177.
- 1978. Feeding adaptations in Triassic dicynodonts. *Palaeont. afr.* 21: 121 - 132.
- 1979. The ankle joint in some early archosaurs. *S. Afr. J. Sci.* 75: 161 - 178.
- 1978. A review of the classification and distribution of Permo-Triassic tetrapods. *Palaeont. afr.* 21: 15 - 44.
- Cruickshank, A.R.I. & A.W. Keyser (in press): The origin and classification of Triassic dicynodonts. *Trans. geol. Soc. S. Afr.* 82.
- Grine, F.E. & E.S. Vrba. 1979. Enamel prisms and diphyodonty: linked apomorphies of Mammalia. *S. Afr. J. Sci.* 75.
- Hiller, N. (in press). A new species of *Megerlina* (Brachiopoda) from the Pleistocene of Zululand. *Ann. Cape Prov. Museums.*
- Kitching, J.W. 1978. The stratigraphic distribution and occurrence of South African fossil Amphibia in the Beaufort beds. *Palaeont. afr.* 21: 101 - 112.
- Plumstead, E.P. 1977/79. A re-evaluation of the venation structure of *Glossopteris*. *Ann. geol. Surv. S. Afr.* 12.

- Oelofsen, B.W. & J.A. van den Heever (in press). Role of the tongue during olfaction in varanids and snakes. *S. Afr. J. Sci.*
- Oelofsen, B.W. 1978. Atmospheric CO<sub>2</sub>/O<sub>2</sub> imbalance . . . and the extinction of biota. *Palaeont. afr.* 21: 45 - 51.
- Van Heerden, J. (in press). The morphology and taxonomy of *Euskelosaurus* (Reptilia: Saurischia; Late Triassic) from South Africa. *Navors. nas. Mus. Bloemfontein* 4 (2).
- Vrba, E.S., 1979. Phylogenetic analysis and classification of fossil and recent Alcelaphini (Family Bovidae, Mammalia). *J. Linn Soc. (Zool.)* 11.
- 1979. A new study of the scapula of *Australopithecus africanus* from Sterkfontein. *Am. J. Phys. Anthropol.* 50 (3).
- Vrba, E.S. and Panagos, D.C., 1978. A new limestone cave breccia from Vlakplaats near Pretoria. *Ann. Transv. Mus.* 31: 177 - 184.
- Vrba, E.S. and Grine, F.E., 1978. Australopithecine enamel prism patterns. *Science* 202: 890 - 892.
- — 1978. Australopithecine enamel prism patterns. *Proc. El. Mic. Soc. S. Afr.* 8: 125 - 126.

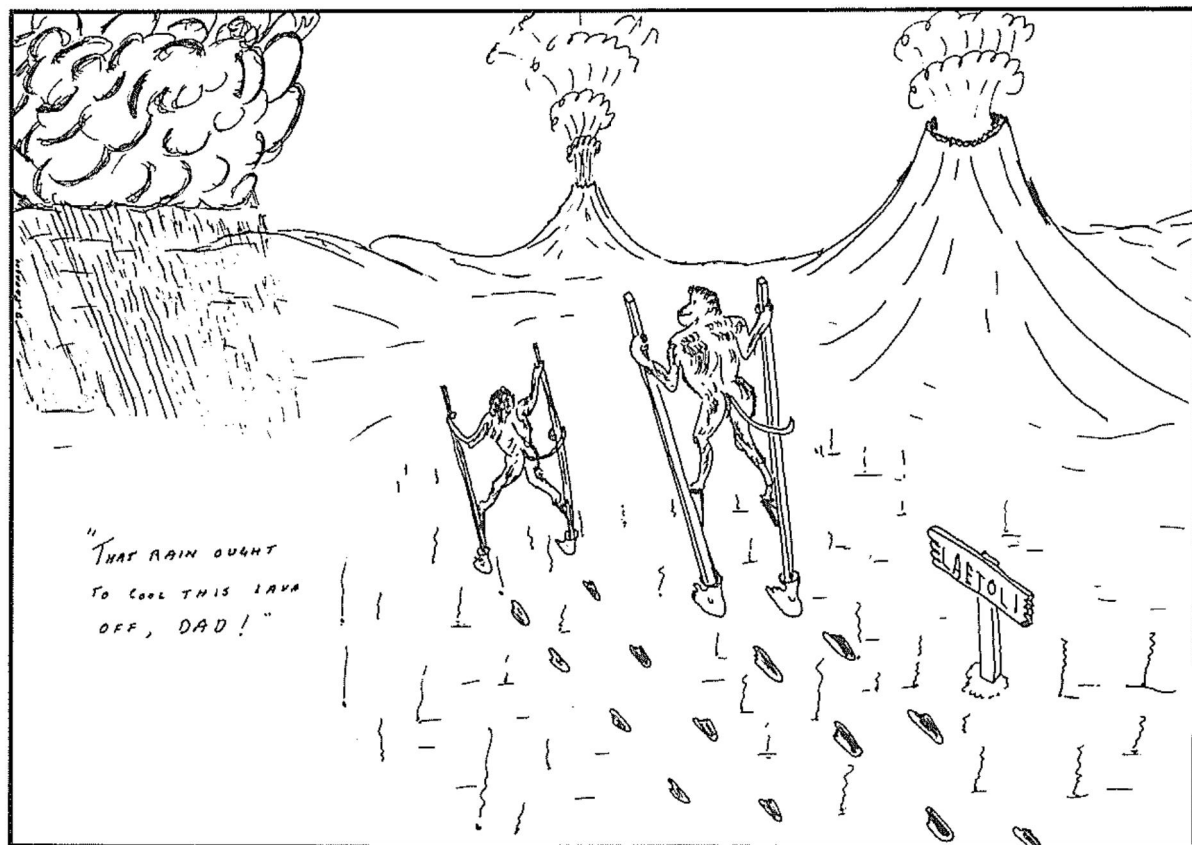
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*Mixed feelings: When your mother-in-law drives your new uninsured BMW over the precipice.*

*You can fool some of the people all of the time, and all of the people some of the time, but you can make a fool of yourself anytime.*

*He who findeth sensuous splendour in the hot pink bodies of luscious damsels is not righteous but right.*





Cartoon by David Panagos (Transvaal Museum)

## LETTER TO THE EDITOR

Dear Sir

At the PSSA Conference held in Bloemfontein, after Fred Grine had delivered his paper on *Diademodon*, I questioned him on who made the statements he was refuting. In reply he said that he refuted particularly my own statements, mentioning various dates and particularly my contribution to the Paris Symposium of 1977. To rectify this matter I submit an abstract of the latter contribution due to appear in print early in the new year.

Yours sincerely

A.S. BRINK

## THE ROAD TO ENDOTHERMY

By

DR. A.S. BRINK

### ABSTRACT

This contribution is a survey of some of the more controversial thoughts advanced over the past 25 years on the subject of possible endothermy in vertebrates lower on the anagenetic scale than birds and mammals, e.g. in synapsids and dinosaurs. No new thoughts are advanced, the object is merely to synthesise a more comprehensive picture from a variety of speculations often interpreted out of context as if they were statements of fact. Thus it is particularly emphasised that a speculation should be correctly interpreted as a thought advanced without there being proper or factual scientific grounds for its support. It is advanced as a probability or possibility in the light of mostly a multiplicity of other circumstances where even these are probabilities or speculations. Worse than misquoting an author by turning his speculative into a statement of scientific fact, is to quote such a speculation out of context with all other circumstantial probabilities which the author had advanced in tentative support. In this contribution a warning is also sounded against a tendency lately to pursue scientific research after having formulated a conclusion; to search for facts that can support a preconceived idea. Man is clever enough, and his scientific tools adequate and versatile enough, to enable him to prove that a preconceived wrong idea could be absolutely factual.

## FOSSIL REPTILES & FOSSIELREPTIELE

Our new President, Mike Cluver, is the author of a booklet on the fossil reptiles of the South African Karoo. It can be ordered either from the South African Museum, P O Box 61, Cape Town, 8000, or the National Museum, P O Box 266, Bloemfontein, 9300.

Die boekie is ook in Afrikaans beskikbaar. Dit is 'n goeie inleiding tot die studie van Karoofossiele en behoort 'n mooi geskenk vir kinders van 12 tot 18 te wees en vir belangstellendes van enige ouderdom.

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