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# **PAL** NEWS NUUS



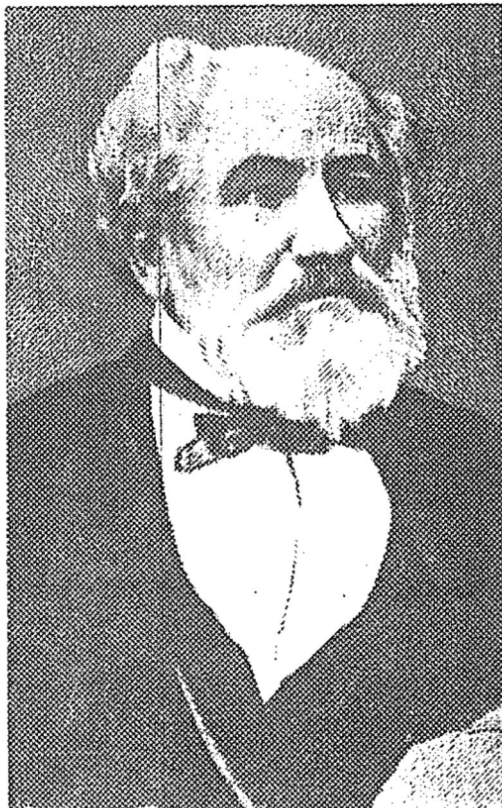
Biannual Newsletter of the Palaeontological Society of Southern Africa  
Halfjaarlikse Nuusbrief van die Paleontologiese Vereniging van Suidelike Afrika

Vol./Band 6 (4)

July/Julie 1990

**Andrew  
Geddes  
BAIN**

Father of  
S A Geology



*(story concludes  
on page 29)*

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## EDITORIAL

### Salve et Vale!

This is my 16th, and last, editorial. I have worn the editor's hat now for nearly the past ten years, and think it is time to give someone else the chance to steer *Pal News/Pal Nuus* in a new direction, which I am quite sure it needs badly.

In laying down the pen, I want to thank those who have loyally and cheerfully submitted items for inclusion. Without their help there would have been nothing at all to publish, and the newsletter would have folded long ago.

All in all it has been fun, if at times somewhat frustrating. Sometimes getting the contributions out of busy (?lazy) members has been akin to pulling teeth, but somehow or other between us we have managed to come up with at least something to make up an issue each time.

There are many I wish to thank for their sustained help with the production of *Pal News/Pal Nuus* over the years - first, Denise Smith who did much of the typing and layout while I was still at the BPI, the staff of the Wits University Central Printing Unit, and latterly special thanks to Gideon Rossouw for pulling strings at the UPE Printing Unit.

As far as contributors are concerned, my own personal prize goes to that winner of the Order of the Boot and collector of, writer on, and dealer in fossil you-know-what, Roger Smith. His (palaeofaecal) reports have always been on time, voluntary, newsworthy and interesting. Thanks, Roger, for making it so much fun. I should certainly also mention Arthur Cruickshank, who has regularly sent us interesting reports from far away; it has often puzzled me why we should get reports apparently so much more easily from people far away than from those right in our own back yard! There have been many other loyal contributors, and my singling out of Roger and Arthur is in no way intended to slight their contributions or support. Without it all, as I have said, there would have been nothing to publish.

The new editor has fertile ground to excavate; palaeontology seems to be entering a new and exciting era which is much more analytical and less "alpha-descriptive" than in the past, and many fundamental new insights seem just around the corner. I hope his or her stint will be at least as interesting as mine was, and that many more members will support the new broom.

The Golden Gate Conference will be the first PSSA conference that I will have missed. I wish it every success. I will definitely be at the next one.

I end with a personal and sincere word of congratulation and best wishes to Bruce Rubidge on his appointment to "my" old hot-seat at the BPI. May he get the support he deserves - within the institute, the university, and beyond.

And finally to my old pal, JWK - good on yer, James! We all owe you more than we can ever say. Now take the rest that you have so richly earned! (I can't see him doing it, though; can you?!)

Cheers!

Mike Raath  
Editor



"ACTUALLY, THE WAY THE WORLD'S FALLING APART. IT PROBABLY WAS MADE IN ONLY SIX DAYS...."



## MORE ON DAMALISCUS NIRO FROM WONDERWERK CAVE

by

Francis Thackeray

Department of Palaeontology and Palaeoenvironmental Studies,  
Transvaal Museum, P.O. Box 413, Pretoria 0001

In earlier issues of *PAL NEWS* (5 (3):2-4; 6 (3):2-3), attention was drawn to two remarkable horns of an extinct alcelaphine, *Damaliscus niro*, found in the 1940s at Wonderwerk Cave south of Kuruman in the northern Cape Province. Initially misidentified as ibex, the larger of the two specimens had been missing for more than ten years but was fortunately relocated by Alan Morris in the Department of Anatomy at the Medical School of the University of Cape Town. Both horns are remarkable in that they retain not only the bony core but also the keratinous sheath. Since both had been recovered from guano-digging operations more than fifty years ago, their context and age were unfortunately not known. However, a small sample of one of the specimens has now been dated by Dr Robert Hedges at the Radiocarbon Accelerator Unit in Oxford.

An age of 39 800 (+/-1600) BP has been obtained for the specimen recently relocated at UCT. Although this is an absolute date, Dr Hedges considers that it would be more realistic to consider the result as "equal to or older than 40 000 B.P."

The other specimen probably represents another horn of the same individual. The remarkable preservation of keratin in horns at least 40 000 years old is probably attributable to the fact they were deposited in very dry conditions near the back of the cave at Wonderwerk, where temperatures are nearly constant.

Stable carbon isotope ratios ( $^{13}\text{C}/^{12}\text{C}$ ) have been measured from small subsamples of the keratin. Results obtained at Oxford and at UCT indicate a diet associated with  $\text{C}_4$  grass, which is what one would expect for an alcelaphine in a  $\text{C}_4$  grassland environment.

The keratin is currently being analysed by Eric Harley and his team at UCT, using the new PCR technique to multiply traces of DNA to measurable amounts. It is hoped that these analyses will provide information relevant to an understanding of the

relationships between *Damaliscus niro* and other ungulate taxa, including other alcelaphines and hippotragines.

---

#### **MORE ON CARBON DATING...**

*Following our carrying the item which cast doubt on Carbon dating (by Andy Coghlan, which appeared originally in New Scientist - see Pal News/Pal Nuus 6 (3): p.4, Dec. 1989), Francis Thackeray sent an excerpt from a follow-up article ("Neutron theory fails to resurrect the Turin shroud", also by Andy Coghlan: from New Scientist, 25 February, 1989: p. 28).*

*Francis writes: "Dr Hedges was not happy with Andy Coghlan's other article in New Scientist (the one reprinted in Pal News/Pal Nuus). It gave the mistaken impression that the Oxford lab was involved in the experiment reported in that article. Anyway. "errors" of 200 years are so small that only historians might worry".*

#### *The excerpt reads:*

*"... Robert Hedges, who headed the team of analysts at Oxford, dismisses the theories [propounded by T. Phillips, that the body wrapped in the shroud would have emitted light, heat, and a burst of neutrons - which would have introduced errors into the radio-carbon dating technique] in a letter alongside that of Phillips. He says that "the likelihood that they influenced the date in the way proposed is in my view so exceedingly remote that it beggars scientific credulity". Nor, says Hedges, does Phillips give any reasons to back his theory that a body would produce neutrons.*

*"Phillips proposes a certain flux of neutrons that would according to his own calculations, have required the shroud to be redated at around the time of the crucifixion of Christ. Hedges says that, arguably, Phillips had underestimated the number of neutrons available as well, and that if they were all taken into account, the revised age of the cloth could be a date 100 000 years into the future."*

---

## THE LILT OF THE LIMERICK

Some Doggerel from Francis Thackeray ...

### Mrs Ples down in the dumps

*Robert Broom described many old bones  
But the names grew like genes in new clones.*

*Plesianthropus is now dumped*

*Like others, she got lumped*

*By taxonomists who swept clean the plethora of taxa created by an  
old Broom, who must have thought that any new Tom, Dick or  
Harry (with all their differences in outward appearance and quirks  
of behaviour) must be distinctly different from common old fogies  
like Smith, Brown and Jones.*

### On the First Family (Lucy et al.)

*To the Leakeys, Johanson and others;*

*Were those fossils like cousins or brothers?*

*When the bones are so sparse*

*Don't you think it a farce*

*To claim which, when you need many others ?*

---

Anne Thackeray sends the following howler

**Question:** What is the scientific name of the hominid fossil  
from Taung?

**Answer:** Raymond Dart

---

Francis and Anne Thackeray are moving.

New addresses from 1 July 1990:

**Postal address:**

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*(Best wishes to you both in your new surroundings. Ed)*

# ANTROPOMORF.



'N SEKONDE VOOR DIE ONTDEKKING VAN DIE  
DINOSOURIËR WAT TER NAGEDAGTENIS VAN SY  
ONTDEKKER *Gigantomonstrosus brinki* VERNOEM IS

(Cartoon by Francois Durand)

## NEWS FROM MEMBERS

*Here are the few hardy old regulars again...!*

**Dr Arthur Cruickshank**

72 Thirlmere Road, Hinckley, Leicestershire LE10 0PF, England

### *Palaeontological activities*

Apart from the rapidly nearing dates for the 38th SVPCA, with a growing sense of the inevitable, "Hard Palaeo" has occupied me in the following ways.

1. The main activity has been the continued preparation of the large, complete and almost undistorted skull of *Rhomaleosaurus megacephalus*. Thankfully it looks like the vibro-tool sessions are coming to an end! Much detail hitherto undescribed for (primitive) pliosaurs is being unearthed and the narial system is about to be described. It looks like there was an inhalent current running to the internal nares, and the exhalent current (surprisingly!) left by the external nares. If we are correct in this interpretation, then it looks like pliosaurs could have been chemosensors. Corroborative evidence comes from some (very) preliminary Computer Aided Tomography scans kindly done for us in the Medical School of Nottingham University. Surprising what contacts can be made during adult evening classes! This seems to show short, straight ducts connecting the two (perhaps in cartilage, but who knows with this sort of magic to play with?). If these animals were using air-borne scent, then I would expect diverticula and accessory pouches of a similar kind to those seen in gorgons, but this is clearly not the case at this stage of the research. But many more CAT-scan analyses await us, and next time there may be some better information.

2. Running in parallel with the preparation programme, Mike Taylor and I have also been looking at a range of other Jurassic pliosaurs, principally from the Lias, but also an Upper Jurassic (Kimmeridgian) *Liopleurodon* skull. This is about 1.5 m long, but crushed and slightly distorted. The complete dentition is represented, but only by a collection of teeth of all sorts and sizes recovered from the surrounding matrix. We have also extended the

examination of Jurassic forms to some Middle Jurassic material - some other *Liopleurodon* and a *Peloneustes*. They all seem to have the same kind of reverse-flow narial system.

3. From time to time there is an opportunity to look at plesiosaurs as well. It would seem from our preliminary data that both groups were fully differentiated by the very earliest Lias (Hettangian). It is clear that there are great differences in the skull architecture of these two groups, principally in the lower jaw and palate. What the latest common ancestor was is anyone's guess, but it probably had the ability for underwater "flight", and possibly the reversed-flow smelling system.

4. The taphonomical study that I am doing in conjunction with Dave Martill is in a state of rest at the moment, but when he has written his chunk of the new OU evolution course (later this summer), we will be able to get round to some writing up. It is fascinating to be able to deduce the orientation of the specimen when it hit the sea-floor, from the way spaces became infilled with sediment and calcite - the latter seemingly forming "on top" of any sediment infilling and thus giving the orientation.

There is a fascinating art exhibition doing the rounds of the UK at present, being a study of the way that palaeontologists have "seen" dinosaurs. It is a review of the way that dinosaurs have been reconstructed over the last 150 years, and feathered *Deinonychus* and other forms feature in the more modern reconstructions!

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**Elisabeth Vrba, Dept. Geology and Geophysics, Yale University, Box 6666, New Haven, CT 06511.**

Rob DeSalle, our graduate student John Gatesy, Rimas Vaisnys, and I are well on our way on a research project on African Bovidae that combines the fossil record with molecular analyses. We are completing phylogenetic analyses of the tribes Alcelaphini, Hippotragini and Reduncini based on mitochondrial DNA sequences of living taxa, and on skull characters of the combined living and extinct taxa. Then the cladistic patterns will be used together with fossil chronology to estimate divergence (speciation) times. We will also use the record of mtDNA changes, together with the most secure paleontological date estimates, to test by several statistical methods to what extent the mtDNA results show

an averagely constant rate of evolution - a "molecular clock". Our basic aim is to use the phylogenetic, chronological, biogeographic, and paleoenvironmental data to study various hypotheses of evolutionary tempo and mode in these antelope clades. For instance, we hope to be able to test for "turnover-pulses" and "star-phylogenies" (versus a more even temporal distribution of speciation events); and for the association of speciations with particular paleoclimatic changes.

---

**BPI (Palaeontology), University of the Witwatersrand, Johannesburg**

Bruce Rubidge arrived as Director of the Institute on 1 May 1990, and is still finding his feet, so has not got round to doing any research as yet. However he plans to continue his research on the early therapsids from the base of the Beaufort Group. Presently he is working on a strange carnivorous dinocephalian and also on the postcrania of *Eodicynodon* and *Tapinocaninus*, a new genus of dinocephalian described by Bruce.

With Bruce's arrival, James Kitching has moved into a new office and plans to write up his numerous unfinished projects now that he has shed his administrative burden. The BPI is greatly indebted to James for his numerous years of unselfish service and we trust that he will now be able to enjoy palaeontology again!

Apart from his teaching load, Chris Gow has prepared a manuscript on a new diapsid from Antarctica which was collected by James Kitching in 1970/71. He has also been working on cynodonts and the ancestry of mammals, and concludes that the cynodont ancestors of mammals are missing from the fossil record.

Dick Rayner is involved in several projects at present. These include a review of the evolution of early vascular plants of the Lower Devonian, research on *Glossopteris* flora and a programme on Cretaceous plants and insects from Orapa. Work on the latter has largely been undertaken by Marion Bamford (Plants), Ian McKay and Saskia Waters (Insects). In collaboration with other workers, Dick is also attempting to reconstruct the habitat of *Australopithecus africanus* at Makapansgat.

Anusuya Chinsamy is currently employed as a part-time junior lecturer, and is in the throes of completing her PhD on the bone histology of *Massospondylus* and *Syntarsus*. At present she is

examining the bone histology of *Eodicynodon* and *Kannemeyeria* and hopefully some good results will be obtained.

Francois Durand has recently been awarded a PhD for his thesis entitled "Aspects of the cranial morphology of the Therocephalia" (supervised by Chris Gow); Marion Bamford and Ian McKay have submitted their PhD theses on the plants and insects of Orapa respectively and will graduate in late June; Saskia Waters' PhD thesis "Cretaceous Diptera from Orapa, Botswana" is being examined at the moment, and Patrick Bender (now working at the National Museum - Bloemfontein) has submitted his MSc thesis on the suids of Makapansgat. Heidi Visser continues with her MSc project on the cranial morphology of *Emydops* and *Palmydops*, and is currently very busy at sectioning these skulls which she plans to reconstruct with the aid of a computer.

Four students have registered for honours in palaeontology. Grigor Aitken and John Hancox are doing a combined course at the BPI and the Department of Geology, while Elizabeth Kennedy and Marion Kasdorf are doing the entire course at the BPI.

#### *Recent Research Publications:*

- CHINSAMY, A. 1988. Physiological implications of the bone histology of *Syntarsus rhodesiensis*. *Palaeontologia africana*, 27. (In Press).
- GOW, C E. A tooth bearing maxilla referable to *Lycorhinus angustidens* Houghton, 1924 (Dinosauria, Ornithischia). *Annals of the South African Museum*. (In Press).
- GOW, C E. Morphology and growth of the *Massospondylus* braincase (Dinosauria : Prosauropoda). *Palaeontologia africana*, 27. (In Press).
- GOW, C E, KITCHING, J W and RAATH, M A. Skulls of the prosauropod dinosaur *Massospondylus carinatus* Owen in the collections of the Bernard Price Institute for Palaeontological Research. *Palaeontologia africana*, 27. (In Press).
- McKAY, I J. A new carabid from the Cretaceous of southern Africa. *Zoological Journal of the Linnean Society*. (In Press).
- RAYNER, R J 1989. Early Vascular plants: The South African connection. *South African Journal of Science*, 85: 552 - 557
- CADMAN, A RAYNER, R J 1989. Climatic change and the appearance of *Australopithecus africanus* in the Makapansgat sediments. *Journal of Human Evolution*, 18: 107 - 113.
- KING, G M, OELOFSEN, B W and RUBIDGE, B S. 1989. The origin of the dicynodont masticatory system. *J. Linn. Soc.*, 96: 185 - 211.
- RUBIDGE, B S. A new primitive dinocephalian mammal-like-reptile from the Permian of southern Africa and its phylogenetic significance. *Palaeontology*. (In Press)
- RUBIDGE, B S. A new vertebrate biozone at the base of the Beaufort Group, South Africa. *Palaeontologia africana*, 27. (In Press).
- RUBIDGE, B S. Redescription of the cranial morphology of *Eodicynodon oosthuizeni* (Therapsida : Dicynodontia). *Navors. nas Mus. Bloemfontein*. (In Press).



- RUBIDGE, B S and HOPSON, J. A. A new anomodont therapsid from South Africa and its bearing on the ancestry of Dicynodontia. *South African Journal of Science*. (In Press)
- VAN HEERDEN, J W A and RUBIDGE, B S. The affinities of the early cynodont reptile, *Nanictosaurus*. *Palaeontologia africana*, 27. (In Press)
- WATERS, S B. 1989. A Cretaceous dance fly (Diptera : Empididae) from Botswana. *Systematic Entomology*, 14: 233 - 241
- WATERS, S B. 1989. A new hybotine fly from the Cretaceous of Botswana. *Palaeontology*, 32: 657 - 667
- WATERS, S B and RAYNER, R J. 1989. A new aphid from the Cretaceous of Botswana. *Palaeontology*, 32: 669 - 673.
- WATERS, S B and RAYNER, R J. A cretaceous crane-fly (Diptera, Tipulidae : 93 million years of stasis. *Zoological Journal of the Linnean Society*.
- 

### **Gillian King, South African Museum, Cape Town**

A few weeks ago I returned from a very enjoyable trip to South America - a bit of Gondwanaland that I hadn't visited before! My main aim was, of course, to look at dicynodonts: there are several institutions in Argentina and Brazil that hold collections. The South American forms are later than most South African genera, from the Middle and Late Triassic, although some interesting Permian material has been found in Brazil in recent years.

Normally having my feet planted rather firmly in the Permian, the Middle and Late Triassic dicynodonts have always been something of a puzzle to me. From the illustrations in the literature they all seem to look the same - large, long-snouted ugly beasts, not the pretty little Permian forms we've come to know and love. I had hoped that seeing the actual material might convince me that several genera really did exist, but after studying quite a large sample I still think they all look alike!

Much of the material, particularly from the Santa Maria Formation of Brazil is very badly, and peculiarly, distorted. The bone becomes impregnated with calcite which then expands. This leaves a thin, shell-like covering of fragmented bone over the calcite core. In the process the bony element can swell to amazing and arbitrary proportions. I saw skulls with a tusk on one side with twice the diameter of the tusk on the other side. Bone is apparently affected differently according to whether it is dermal or endochondral, affecting skull proportions. Since current classifications of Triassic forms use characters based on skull proportions, one wonders how useful they are.

There are active research groups working on Permo-Triassic

tetrapods in Buenos Aires and Tucuman in Argentina and Porto Alegre in Brazil. I know that some of my colleagues here already have contacts with those groups and may know of the economic difficulties that face them. Despite this it was very encouraging to see the large number of research students working in vertebrate palaeontology and to experience their enthusiasm! It was a very worthwhile visit.

#### **Roger Smith, South African Museum, Cape Town**

This year began with a compilation of a report for the SACS working group on Karoo Biostratigraphy covering the Lower Beaufort biozones, which was submitted to Bruce Rubidge before the end of February. Then came the planning of a Karoo excursion for delegates of Geocongress '90 to be held in July. In conjunction with De Ville Wickens (SOEKOR) and Doug Cole (G.S.O.) we have published an 80-page guide book detailing aspects of sedimentation, palaeoenvironments and fossils in the south western Karoo Basin. This is obtainable from the Geological Society of South Africa as:-

Cole, D I, Smith, R M H, and Wickens, H de V, 1990.

Basin-plain to fluvio-lacustrine deposits in the Permian

Ecca and Lower Beaufort Groups of the Karoo Sequence.

Guide book, Geocongress '90 Geol. Soc. S. Afr., PO2, 83pp

In January I was invited to take part in a field excursion to look at the Karoo-aged rocks of Damaraland. The trip was organised by the Geological Society of Namibia and led by two German students who had spent five years studying the succession and were about to leave for Göttingen for the last time. My particular interest was in the time-stratigraphic relationships of these rocks with the main Karoo Basin. It seems, however, that correlation between the Namibian Karoo Basins and the South American Parana Basin is far stronger than with the South African Basin. It is also difficult to account for the apparent absence of Triassic-aged sediments in the Damaran Karoo Succession without any evidence of erosion or non-deposition hiatus surfaces. I have a feeling that they have not seen the last of me!

In February the "A-Team" invited Mike Cluver and Gillian King to spend a few days with them at Leeukloof where I was doing some taphonomic work on the Teekloof Formation. We spent three weeks on a single 1300 m long cliff exposure of floodplain

mudrocks and found 226 *in situ* fossils and 25 loose pick-ups. Each *in situ* fossil was taphonomically assessed and its locality accurately plotted on continuous panel sections of the outcrop. Detailed sedimentological logs were taken at intervals along the exposure with special attention to palaeosol horizons. The aim of this exercise is to find out how the voluminous Teekloof mudrocks accumulated and sample a fossil assemblage in detail to assess the various taphonomic processes that operated over a 1,3 km stretch of floodplain. One of the interesting aspects of this study is to explain the above average number of juvenile and infant *Diictodon* fossils in this collection. The smallest was one found by Annelise and has a skull length of only 10 mm. Other prize discoveries are an articulated skeleton and skull of a tiny Millerettid, a slab with five *Diictodons* piled on top of each other, and some beautiful coprolites. (Only Roger could describe them thus! "Beautiful" yet! Ed.)

The "50/50" episode featuring the excavation of "Mike" the pristerognathid was broadcast in May, and it is hoped to move onto a much more detailed treatment of South African fossils, providing funds can be raised.

Future plans include finishing a paper on Teekloof taphonomy for *Palaios*, attending the IAS conference in Nottingham to be back just in time for the Golden Gate conference and field trip.

#### *Recent Publications:*

Smith, R M H. (1990). Alluvial paleosols and pedofacies sequences in the Permian Lower Beaufort of the southwestern Karoo Basin, South Africa. *Jour. Sedim. Petrol.*, 60 (2), 258 - 276.

Cole, D I, Le Roux, J P and Smith, R M H. (1989). Discussion on U-Pb isotope systematics, ages and genesis of Karoo uranium deposits, South Africa.

*S. Afr. J. Geol.*, 92 (4), 471 - 472.

#### **Richard Dingle, Micropalaeontology Research Unit, South African Museum, Cape Town.**

Since arriving at the Museum just over a year ago, my task has been to consolidate the facilities, establish contacts, and set projects in motion.

FRD has seen fit to greatly assist in these tasks, and we have recently commissioned our new JEOL 5200 SEM. In the near

future. I am also hoping to fill a vacancy for a foraminifera/calcareous nannofossil research worker. This will give us coverage in the main marine calcareous microfossil groups, as well as in palynology.

We have initiated research projects with colleagues at SOEKOR, De Beers Marine, and UCT.

I have pursued my own ostracod research along two lines: Mesozoic/Cenozoic onshore and offshore, and Quaternary west coast continental margin. Amongst other things, the latter will investigate palaeo-oceanographic aspects of upwelling.

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### **Francois Durand, Geologiese Opname, Pretoria**

*(Hierdie berig is van Francois ontvang net nadat die vorige uitgawe van Pal Nuus gesluit is vir redaksie doeleindes. Ek is egter seker dat lede in sy nuus sal belangstel. Die Redakteur.)*

Uiteindelik kom daar weer 'n stem hier vanuit die verre Noorde. Die oorverdowende stilte van laas was slegs 'n aanduiding van hoe besig ons is.

Andre Keyser se ondersoek van die grot Haasgat duur voort en 'n referaat getiteld: "Haasgat, a new Plio-Pleistocene fossil deposit" gaan binnekort in die joernaal *Palaeocology of Africa* verskyn. 'n Interessante verskynsel is dat meer aap- as bobbejaanreste in hierdie grot gevind is. Huidiglik word ander grotte ook ondersoek. 'n Referaat getiteld: "Rietpangrot- 'n beskrywing en 'n paar gedagtes" deur A W Keyser en J E J Martini het in September in Vol. 29 van die *Bulletin of the S A Spelaeological Association* verskyn. Die hersiening van die kleiner Endothiodontidae nader voltooiing en dit wil voorkom of meeste aan die genus *Pristerodon* behoort. Dr. Keyser word bygestaan deur Ibolya Sopik wat al die delikater fossiele prepareer.

Ian Brink is steeds besig met Volume 3 van die Synapsida-katalogus en dit sal heelwaarskynlik gereed wees vir die volgende konferensie. Die werk aan hierdie volume neem meer tyd in beslag as die voriges omdat die "probleemgevalle" hierin behandel word. Die literatuur oor hierdie fossiele is karig of moeilik bekombaar of die fossiele is sleg bewaar. Kollegas wat weet van referate of ander informasie wat handel oor die Synapsida, maar wat nog nie gepubliseer is nie, word vriendelik uitgenooi om dit aan te stuur.

Pam Prowse sterk tuis aan na 'n onlangse motorongeluk. Sy het, buiten vir die skok, gelukkig net 'n sny en kneusplekke opgedoen. Colin en Pam was verantwoordelik vir drie publieke uitstallings wat daarop gemik was om paleontologie aan die leek bekend te stel. Magdel Gricius vorder goed met die katalogisering van ons fossielversameling en het die Wayne Badenhorst versameling reeds afgehandel. Sy is tans besig om die fossiele wat deur Gideon Groenewald in 1988 versamel is te katalogiseer.

¶ Gedurende die jaar het Herbie Klinger ammoniete van ons Kryt boorkerne van Zoeloeland versamel vir navorsing. Marlon Bamford het vir die eerste helfte van die jaar vir Eva kom help met die hersiening van haar *Glossopteris* manuskrip terwyl sy deelyds haar PhD tesis voltooi het. Sy het ons toe verlaat vanwee belangrike familiesake; baie geluk dan ook Marion en James met julle pragtige dogtertjie.

Ons het onlangs ook verskeie versamel-uitstappies onderneem met die doel om meer plantfossiele vir biostratigrafiese en morfologiese studies te bekom. Colin MacRae, Heidi Anderson en Eddie van Dijk het 'n ekskursie na die Tafelkop-vindplek naby Ermelo onderneem. Blare van *Palaeovittaria* en verskeie *Glossopteris*-spesies asook sade en wolfskloustingels is hier gevind. Eddie van Dijk het vroeër opgemerk dat sommige monsters magneties is. Hierdie verskynsel sal deur mnr. M Hauger, die Geologiese Opname se paleomagnetis, ondersoek word. 'n Ekskursie na 'n fossielvindplek in die Bronkhorstspuit-distrik is saam met Judy Maguire onderneem nadat sy ons daarvan verwittig het. Hier het ons blare en sade van verskeie *Glossopteris*-spesies ontdek. Die meeste oorblyfsels was egter blare van *Glossopteris ampla*. Daar was ook 'n ekskursie na Rydale, in die Wes Transvaal, onderneem. Ons het *Neuropteridium* en verskeie *Palaeovittaria* en *Glossopteris* spesies hier ontdek.

Eva Kovacs-Endrody se artikel getiteld: "On the late Permian age of *Ecca Glossopteris* floras in the Transvaal Province with a key to and descriptions of twenty five species" sal binnekort as 'n *Memorie van die Geologiese Opname* verskyn. Eva is tans besig met die voorbereiding van 'n artikel oor *Promissum* vir 'n kongres wat in 1990 in Frankfurt gehou gaan word. Eva vra om verskoning vir die foutjie in haar brief aan *PAL NUUS* (Julie 1989). Die tweede sin in die laaste paragraaf behoort as volg te lees: "I do not think that I have ever met a fundamentalist creationist in our

palaeontological society, though fundamentalist evolutionists may occur among South African palaeontologists".

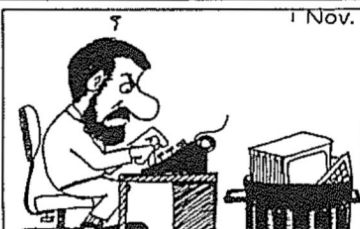
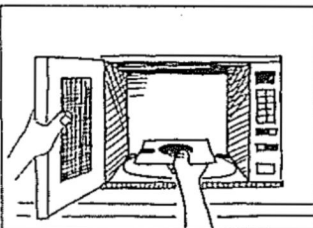
Colin MacRae is druk besig met 'n mikroskopiese ondersoek van die nommer 4 laag van die Witbank en Hoëveld se steenkoolvelde. Linda Karyn staan hom met die voorbereiding en montering van die stuifmeel en spore van die steenkoolleë en ander fossielvindplekke by. Colin het verskeie goed bewaarde nuwe spesies opgespoor tydens hierdie ondersoek. Hy het ook sy navorsing oor en fotografie van die monsters vanuit die Whitehill Formasie voltooi en gaan dit binnekort opskryf. Colin se tesis getiteld "Palynostratigraphic correlation between the Lower Karoo Sequence of the Waterberg and Pafuri Coal-bearing basins and the Hammanskraal plant macrofossil locality, Republic of South Africa" was gepubliseer as die 75ste *Memorie van die Geologiese Opname*. Hy het ook 'n referaat getiteld "Palynostratigraphic identification of an unconformity in borehole KNP7 from the north-eastern part of the Soutpansberg Coalfield (Permian Period), South Africa" in die *Suid Afrikaanse Tydskrif vir Geologie* 1989, Vol. 92 (3) gepubliseer. Colin het ook lesings oor paleontologiese versamelings en die wet by die Mineraal en Edelgesteente Klubs van Pretoria en Johannesburg aangebied (sien die artikel wat deur hom in *The South African Lapidary Magazine*, 21 (2): 29 - 30 (1989) gepubliseer is).

Met gemengde gevoelens het ek my tesis onlangs ingehandig. Aan die een kant kan ek nou weer soos 'n mens leef, maar aan die ander kant sal ek met heimwee terugdink aan my studentedae by die BPI. Baie dankie aan dr. Chris Gow en prof. James Kitching vir hulle ondersteuning.

*(Dankie, Francois. Ek verneem uit die BPI-berig in hierdie uitgawe dat die PhD-graad aan jou klaar toegeken is. Baie geluk! Die Redakteur)*

# Die tragiese verhaal van die nonkonformistiese slapskyf

Deur F. Durand



(Cartoon by Francois Durand)

## News from the Geological Survey

(This report is the "current" one. Ed)

Eva Endrody has just recently returned from Germany where she attended the International Kräusel Memorial Palaeobotanical Meeting. She presented an update on *Promissum pulchrum* and took some of the recently discovered material for the experts to examine. One specimen was also available for chemical analysis. It is fascinating to listen to Eva's account of the reaction and behaviour of some of these scientific fundis. The meeting was hosted by the Senckenberg Institute in Frankfurt, in fact in the same auditorium where two years ago *Promissum* was presented as a conodont to an international conodont expert gathering. As they say in Afrikaans "Die vet is nou eers in die vuur"! Dr Aldridge, one of the world's foremost conodont experts, will be visiting us from the 26th June to study all our material housed in Pretoria. He will also spend a few days in the Cedarberg collecting additional material to take back with him to Nottingham (UK).

Pascale Chesselet appears to be settling into the government grind after years of Bohemian student life. She is working on the microscopic and soon hopefully on the ultrastructure of *Promissum*. Her findings so far are promising, if you will excuse the pun, and she will give an update on her work at Golden Gate.

Ian Brink is still busying himself on the final aspects of Volume III of the Synapsida Catalogue. He is officially retired, but we have "retreaded" him for half-day employment. Pam Prowse is assisting him with the illustrations and also producing high fidelity casts of various fossil material.

Andre Keyser was last seen dangling from the end of a climber's rope, practicing for a 60-metre vertical drop into a cave. The lengths, or should I say depths, that one is prepared to go to for exploring for fossil-bearing breccia astounds me. The manuscript on the revision of the smaller endothiodonts is nearing completion. Ibolya Sopik is preparing material related to Andre's project.

Colin MacRae, last seen tied in knots of red tape, is still working on the palynology of the No.4 coal seam, the samples from the Whitehill Formation and on his key and catalogue of spore and pollen species found during the progress of his research. Linda Karny is still busy preparing samples from a northern Free State



borehole that yields material that straddles the lithologically defined Eccra/Beaufort Group boundary. Grigor Aitken, an honours student from BPI (Pal) is presently undertaking a small study on the palynology of the No. 4 seam with us.

Francois Durand, doing his military service, has just been transferred to Defence Force Nature Conservation in Pretoria. We hope to be seeing more of him in the future.

#### **Willem Smuts, Geological Survey, Bellville, Cape.**

I will be spending the next three months in the Cape, covering the area between George and Vredendal and from the Cedarberg to Cape Point. During this time I will be mapping peatlands and collecting information for SAGEO's national peatlands inventory.

A lot of information will also be worked into a dissertation entitled: *The Petrography, Geochemistry and Palaeobotany of South African Peats and Lignites*, which will be born sometime in the next two years!

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## ANTHROPOMORF.



(Cartoon by Francois Durand)

FD

## CREATION / EVOLUTION FORUM

*We seem to be getting a spate of letters and articles on this enduring (?growing) controversy, so I have grouped some together under this Heading. We would be happy to receive other contributions on the same theme - for and against! For now, what I have to offer are the following items from Colin MacRae and Juri van den Heever. Ed.*

### A NEW CREATION

C S MacRae, Geological Survey, Pretoria

Francois Durand and myself recently attended what can be considered to be the "big launch" of the Creation Forum in South Africa. The Creation Forum was founded in June 1988 and has presented "creation science" lectures at many venues throughout the country since then. This was their big effort. Held in the plush Sanlam auditorium of the Randse Afrikaanse Universiteit the seminar attracted an enormous attendance (I would estimate some 500 people) of mostly Seventh Day Adventist following. The organisation and general presentation was absolutely professional and of an exceptionally high standard.

Mr. Cecil Churms MSc. Physics (Stel.) firstly presented a simplified explanation of the basic tenets and methods involved in  $^{14}\text{C}$  dating, followed by a very convincing explanation why the presently proposed ages produced by scientists are erroneous. This was followed by equally plausible  $^{14}\text{C}$  "evidence" demonstrating that the earth is actually some 6 000 years old. If you have the impression that he must have come across as some lunatic, think again; this lecture was exceptionally well presented. Walter Veith BSc, BSc Hons, MSc (Stel.), PhD Zoology (UCT) started with his personal testimony of how he at one time verbally attacked students who held any religious convictions relating to creation. After a very convincing spiritual experience the "scales fell from his eyes" and he related how he came to realise the truth. He subsequently proceeded to demolish many of the geological (e.g. the classic Yellowstone National Park petrified tree trunks) and palaeo-zoological (e.g. australopithecine fossil) examples supporting present scientific determinations of the age of the earth. He very convincingly (for the lay person) demonstrated that all the geological structures and palaeontological features observed can

be explained in terms of the Flood, and that this in turn supports a young earth.

In the Yellowstone Park case he showed a sequence of slides depicting the Mount St. Helens eruptive event and the resultant "*in situ*" tree trunks in the river flood deposits. He convincingly compared the morphology of these modern analogues to the fossils in the park and concluded that geologists and palaeontologists have been taking the world for a ride for far too long. As the advertisement goes, "Makes you think, doesn't it?".

The australopithecine material was cursorily dismissed by him (remember the PhD in zoology) as being something not very different from modern chimpanzees.

One example that puzzled and amused me intensely was a reference to fossil tracks. He noted that almost all the sets of tracks ever discovered always go upwards, and the obvious conclusion is that they were escaping to higher ground to avoid the rising flood waters. Now what puzzled me was 1) did he have actual measured data, 2) had he not taken the result of tectonic events (e.g. dip of the strata) into account or 3) were the tracks mostly drawn in the relevant literature sources in such a way as to appear to be going upwards on the page? My state of befuddlement was to be brief - the next slide projected in support of his statement, as fate would have it, landed upside down. "Oh, this shows the tracks going down but that is only because the slide is upside down." Could any palaeoichnologist help me with any hard facts/measurements to put my mind at ease or were those the tracks of the animals committing suicide?

Question time (by this time Francois had reached boiling point and was foaming at the mouth) arrived, with once again, a little surprise for me. All questions were to be fielded in writing, handed to the chairman of the session. He then read each one (selected those he felt the speaker could handle?) and passed them up to be answered. I watched the progress of my question slip very carefully. Being a mildly uncomfortable question I was in no way surprised to see my little slip of paper immediately shuffled to the base of the pile of some 50 odd questions.

Well, time was up on a very successful (for some) seminar and we were all promised that our questions will be answered in the next issue of *ORIGIN - OORSPRONG*. Copies of this publication

can be obtained by becoming a supporting member of Creation Forum, P.O. Box 48, Welgedacht 1572.

Just a few words to conclude. If you thought the creation-evolution debate is something happening over the seas and far away, think again. If you were ever under the impression that this is not going to affect you as a palaeontologist/lecturer in geology or life sciences/school teacher/person responsible for museum exhibits, think again. If you ever imagined the debate is between intelligent, well trained objective scientists and a loony bunch of religious freaks, think again. If you thought you could just pop into one of these crazy lectures and flatten the nut speaking with a few easy questions, THINK AGAIN!

As professional palaeontologists we have a very serious responsibility with this emerging embryo right here in our midst. Are we going to wait for the monster to grow and then attempt to handle it? Lets hear what you, the palaeontologist, has to say!

P.S. Essential reading:

STRAHLER, A.N. 1987. *Science and Earth History - the evolution/creation controversy*. Prometheus Books, Buffalo, N.Y., 552pp.

JOHNSON, M.R. 1988. *Genesis, Geology and Catastrophism. A critique of creationist science and biblical literalism*. Paternoster Press, Exeter, U.K., 171pp.

P.P.S. Mike Johnson informs me that Oxford University Press (Box 1141, Cape Town) will be responsible for the distribution of his book. While in broad sympathy with the creationists' religious beliefs, he totally rejects their views on geology and evolution. Some of you who attended the 3rd Pal. Soc. Congress in 1982 may remember that Mike presented a paper on the topic which was subsequently published in the July 1982 issue of South African Journal of Science under the title "Creationism, evolution and historical geology".

(See the review of Mike Johnson's book by Juri van den Heever which follows immediately on the next page. Ed)

## **GENESIS, GEOLOGY AND CATASTROPHISM**

A Critique of Creationist Science and Biblical Literalism, by Michael R. Johnson. The Paternoster Press 1988 Paperback. 171, pp. R40.00 (Tax incl.)

Distributors: Oxford University Press, P.O. Box 1141, Cape Town.

Ever since it has become the vogue amongst biblical literalists to attack science under the banner of so-called "scientific creationism", professional scientists from various countries have countered with a spate of anti-creationist books and publications. Despite the extensive South African fossil and geological record, local scientists have been singularly lacking in responses to the off-the-wall attempts by local creationists to discredit the findings of science. They have, by and large, chosen to take the easy way out and ignore the sectarian posturing of creationists with regard to science in general and evolution in particular. The predominant feeling has apparently been that if the problem is ignored for long enough it will go away. It has in fact not done so, and probably never will.

Whilst totally lacking scientific veracity, a major feature of the "creationist argument" is a highly verbose appeal to the gullibility of the proselyte. A prime example of this particular method was demonstrated by Duane Gish of the Creation Research Institute in San Diego during his appalling performances in South Africa some years ago. This same technique has of late surfaced locally and begs an appropriate response from the scientific community.

Mike Johnson, a geologist at the Geological Survey in Pretoria, has responded with an anti-creationist book with a difference. It has a distinct South African flavour in that he cites local geological and palaeontological phenomena in refutation of fundamentalist and catastrophist postures against science. For this he should be congratulated. To my mind the only way to expose the intellectual bankruptcy of the "scientific creationists" is to take their arguments seriously and put them to the test.

The book is divided into eight chapters with an adequate index and two appendices, one on the geological time scale and the fossil record and the second summarising the attitudes of several prominent evangelical authors on the nature of biblical infallibility. A section of notes on the references in the text is also included.

Chapter one explains the author's classification of the various options with regard to science and the bible. Three positions, termed literalist, concordist and functionalist, are defined. Fundamentalist creationists are all grouped as literalists. This is convenient for the purpose of the book but it has to be kept in mind that within the creationist fraternity a number of factions exist which are not unanimous in the way they interpret what they perceive as "data".

According to the author, the concordist approach is that of the Christian accepting both Genesis 1-11 and the findings of science, but manipulates biblical data to bring it in line with science. An example of this would be to regard the days of creation not as 24-hour periods but as geological periods. Concordists therefore maintain that science and the bible are compatible in the sense that the bible is regarded as factually inerrant where science and history are concerned. This position is later refuted by the author.

The third position, that of the functionalist, is the preferred approach of the author, an evangelical geologist. In this case science and the bible are viewed as complementary sets of data, each valid in its own sphere. A large portion of the book is devoted to putting this view across.

Chapter 2 is devoted to Genesis 1-11. An extensive list of inaccuracies are highlighted and contrasted with known scientific data to show the predicament of the concordist position. Added to this are some internal textual inconsistencies and theological questions which aggravate the problem. The author consequently concludes that the concordist view which regards Genesis 1-11 as scientifically and historically correct is untenable.

Chapter 3 discusses the relatively recent resurrection of creationism. This radical position views science as inaccurate and fraudulent in contrast to, especially, Genesis 1-11 which is regarded as inspired writing which depicts the literal truth. The discussion on the rise of creationism is quite brief and for a more detailed look at this topic the reader can consult one of the many titles that are currently available.

Chapters 4, 5 and 6 relate to data which shows six-day creation to be a figment of the imagination. As is indicated by the title of the book, the author devotes a large portion to geology. This is used to good effect in showing where the creationists are wrong and

how they coat their spurious arguments with seemingly reasonable assumptions.

In chapter 4 the case is put for orthodox geology and in clear terms the author explains subjects ranging from the distribution of fossil species, erosion and radiometric dating to various other aspects, including the deposition of sediments and the formation of sedimentary rocks. The chapter is very aptly concluded by a South African case study showing how fossil and radiometric dates correspond and independently support the actual sequence of events.

Chapter 5 dissects the outrageous statements and attitudes of creationists with regard to geology. Numerous examples of their simplistic "arguments" for a young earth are noted and crushed by the author. In dealing with these statements he quite rightly points out the creationists' lack of training in geology and the fact that their writings are not published in scientific journals.

In Chapter 6 various aspects of biological evolution, including the evolution of man, together with creationist pronouncements against the process of descent with modification, are discussed. An important point made here is the clear statement that the process of evolution is a proven fact. It often appears during a discussion that evangelicals are generally ignorant of this fact. It also raises an interesting point. As it can be shown that evolution is a fact, irrespective of the various religious persuasions that abound, it becomes a neutral paradigm and its workings are neither religious nor irreligious. This effectively puts it outside the constraints of religious thought.

Chapters 7 and 8 contain the author's apology for the functionalist approach and concerns biblical infallibility and the interpretation of Genesis 1-11 from an evangelical point of view. I do not wish to pronounce judgement on or analyze the author's belief system as this would more properly fall within the scope of a qualified theologian. However, only time will tell whether the skillful explanation of the events in Genesis 1-11 is theologically acceptable to other evangelicals.

In the final analysis this very readable book does not differ much from others in the same genre in its attitude towards creationism. A novel addition is the fact that Mike Johnson is himself an evangelical scientist and therefore argues his case from a specific religious position.

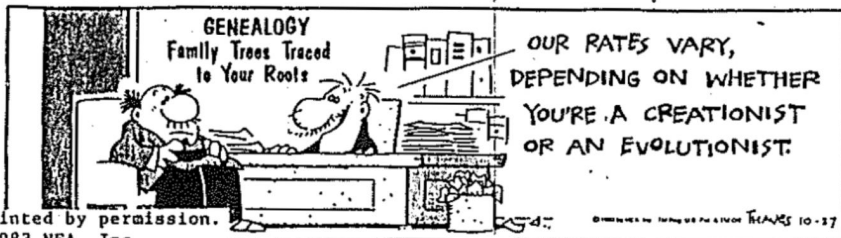
This welcome addition to the anti-creationist literature should find favour with a wide variety of evangelical scientists. Those scientists who do not subscribe to a religion will also find the book useful in that it has a scientific base for its attitudes towards and pronouncements on evolution, geology and "scientific creationism". Not known for their ability to accept criticism, it will definitely cause the "scientific creationists" to hyperventilate.

Juri van den Heever  
Department of Zoology  
University of Stellenbosch

*Juri has the address from which anyone interested can order a book on this broad subject entitled REVIEWS OF THIRTY-ONE CREATIONIST BOOKS edited by S. Weinberg (1984) and published in New York by the National Center for Science Education, Inc (The Committees of Correspondence). The cost is US\$5.00.*

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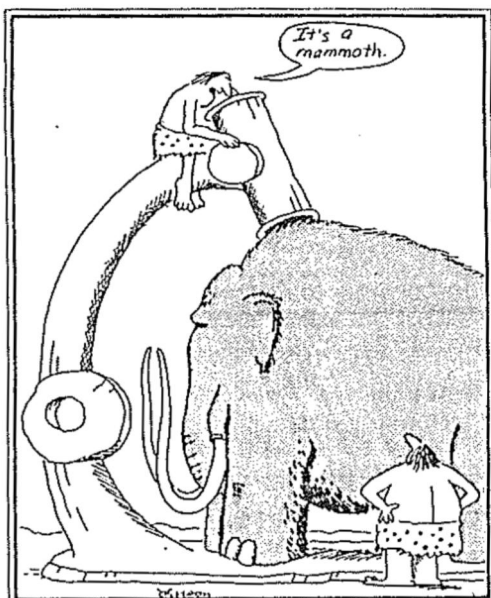
FRANK AND ERNEST



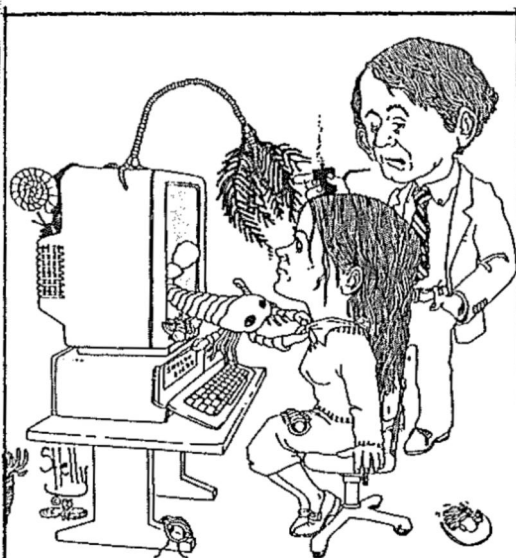




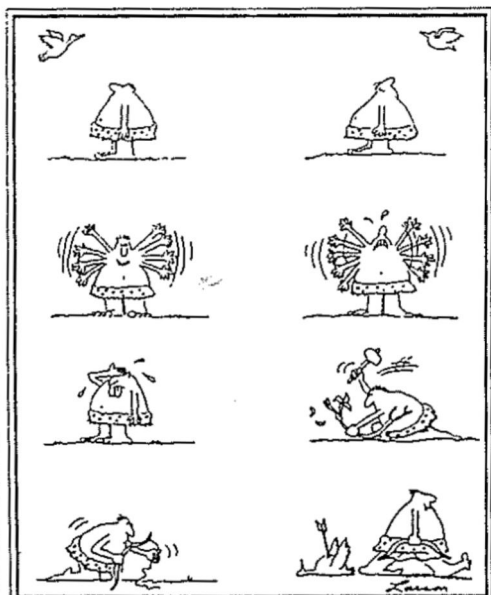
"What a find, Williams! The fossilized footprint of a brachiosaurus! ... And a Homo habilis thrown in to boot!"



Early microscope



"I say, Ms. Fackelman, that's quite a realistic Silurian software package you've got there!" (Cartoon by Shelly Fischman) (Geotimes)



A black and white cartoon illustration by J. Workman. Two cavemen are perched on the edge of a steep cliff. The caveman on the right is in a dynamic pose, leaning forward and throwing a large, pointed object (possibly a spear or a large bone) towards the sky. The caveman on the left stands upright, holding a small round object (possibly a stone or a small drum) and watching his companion. Above them, two birds are flying in the sky. The cliff face is detailed with vertical lines and small dots. The signature 'J. Workman' is visible in the bottom right corner of the illustration.

J. Workman



A black and white line drawing of a man and a woman in a forest. The man stands on the right, looking down at the woman who is sitting on the ground on the left. A large tree is on the right, and there are some plants in the foreground.

Spudman

## **ANDREW GEDDES BAIN: "Father of South African Geology"**

*This article, like the two before it which appeared in Pal News 6 (2) and 6 (3), is reprinted with the permission of the Editor of Engineering News, where it appeared as a three part series in the issues published on March 17 and 31, and April 7 1989. The series was written by Don Visser, and this article concludes it.*

### **The North West passage is discovered**

In 1845, Bain had successfully completed his work on the military roads in the Eastern Province including the road from Grahamstown to Breakfast Vlei and as the Royal Engineers were re-organising, he was dismissed from the army with a bare note of thanks for his services.

Things looked bleak for the moment, but several factors were working in his favour. In 1843, John Montagu had been appointed Colonial Secretary and within two years had cleared the public debt which had been obstructing development of the colony. He realised the urgent need for making Cape Town more accessible to the farms beyond the mountains to the north. He had an ally in Lt-Col C Michell, the Superintendent of Works, who had been thinking along the same lines for some time.

Montagu also introduced the use of convict labour on the road, at the same time making humanitarian improvements to living conditions in the prisons and as a reward for their work on the roads, the convicts received complete remission of their sentences.

Work being already in progress on the future Montagu Pass over the Outeniqua mountains from George to the Langkloof, they were urgently in need of an experienced engineer to build Michell's Pass, the projected highway to the north. Bain was a godsend to them and was immediately appointed Inspector of Roads of the Western Cape. In 1847, he wrote to Henry Warburton, President of the Geological Society, assuring him that everything had turned out to his advantage: his services were better appreciated by Montagu and Michell; his salary had improved and he had more time to devote to geology than ever before.

Michell had long planned a road linking Cape Town to the Warm and Cold Bokkeveld which would pass through the Skurweberg range at a place called Mostert's Hoek where the Breede River had cut a gorge through the mountains. Starting work in 1846, Bain performed an amazing feat by completing

Michell's Pass, the 5km long Gydo Pass nearby and the reconstruction of the Houw Hoek Pass all within a space of two years.

Bain's son, Thomas, who was later to become a powerful figure in road engineering, botany and other fields, assisted his father on his projects and in the process learned the secrets of Andrew Bain's success. Among these was the technique of dry-stone retaining walls which stand to this day as a monument to his father's ingenuity.

Riding one day to inspect the work on the Houw Hoek road, Montagu and Bain discussed the need for a road from Wellington to the Breede River valley over the Drakenstein mountains. Joining up with the Michell and Gydo passes built by Bain, it would give the true road to the north. Bain already had ideas of a route through these inaccessible mountains, and when they came to the mouth of a dark, ominous looking kloof, he said to Montagu "I think we can get through here". Montagu was enthusiastic and Bain, needing no further encouragement, rode a few days later with four Wellington men to the top of the gorge. The descent was a nightmare of exploration and Bain, now over fifty, said it was the hardest climb of his life.

Their efforts were successful and Bain was able to inform Montagu in his graphic way, "The North West passage is discovered!". Montagu replied even more graphically, "Make haste with the work on Mostert's Hoek, your next task is Bain's Kloof!"

Bain's Kloof was the most formidable of all Bain's undertakings. Its 30 km includes 16 km of solid rock ranging in height from 6 to 20 m through which he blasted a road 5 m in width. Bain consciously followed the route of the kloof's scenic beauty, and stretches of the road hug the mountain next to frightening precipices.

He has the distinction of building South Africa's first road tunnel: the 100 m tunnel was blasted through the mountain with gunpowder, but oxen balked at entering it and he had to find another route. The pass he built commands some of the most wild and romantic scenery in the world and is the home of the giant Protea, Cape fynbos, indigenous orchids, leopards and waterfalls.

The Kloof and Michell's Pass were described by Anthony Trollop as "the finest mountain roads in South Africa" and Bain's

Kloof receives glowing mention in all books on South African travel.

The opening of these passes provided the Cape Colony with its quickest route to the interior. After the discovery of diamonds these highways were of vital importance for they carried all the traffic - the Cape carts, wagons, cabs and even fish carts - speedily and safely from Cape Town to the diamond fields of Kimberley.

There were great festivities and rejoicing when the pass, which had taken four years to construct, was opened in September 1853. The official ceremony was performed by Petrus Borchers, Bain's old friend and Chairman of the Central Roads Board. Citizens of Cape Town, Paarl, Tulbagh and Wellington formed the party which escorted Bain triumphantly from his home in Wellington to the opening of Bain Bridge on the perimeter of the town. From there they proceeded through the pass under triumphal arches erected at various landmarks christened as the Montagu Rocks, the (Charles) Bell Rocks, and Borchers's Bridge. At a sumptuous banquet the pass was officially named Bain's Kloof, Bain in his reply saying that he was "a simple highwayman, more accustomed to blasting than polite society".

He was then presented with a magnificent silver candelabra, about two feet (60 cm) high made specially for him in London. The central figure was of Minerva, Roman goddess of wisdom, war, the sciences and arts, (in all of which Bain had succeeded), holding a torch in one hand and a mirror in the other. A book, compass, triangle and globe of the world were placed at her feet and there were models of three fossil skulls, including the *Dicynodon*, at the base of the candlestick.

Bain's next project was the Katberg Pass, a taxing 60 km of tortuous roads. But even Bain's great strength - he was now 63 - could not take the strain and after four years of cold and privation he had to relinquish the work he had devoted his life to, having suffered a heart attack.

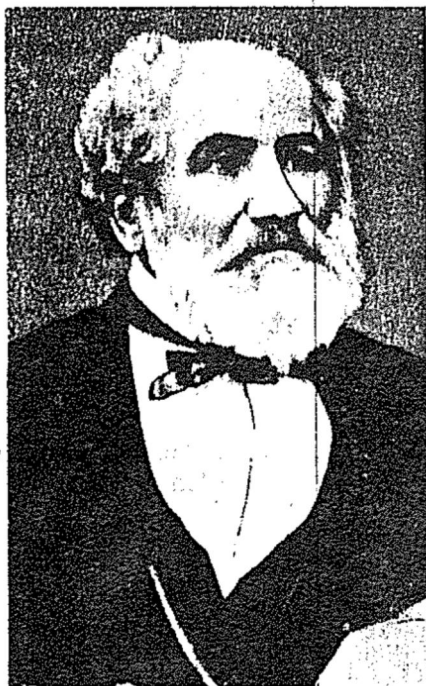
The Colony gave him a year's paid leave and he was greatly heartened when, in April 1864, on arriving in Britain, he was warmly received by Sir Richard Owen, Sir Roderick Murchison and other scientists. His letters show how much he enjoyed his welcome, his visits to the British Museum and scientific societies, and his honorary membership of the Athenaeum.

But, as he was a sick man, who yearned for South Africa, he

returned in 1864, where he died in Cape Town on October 20, to be buried in the Somerset Road Cemetery and later reinterred in Maitland.

Bronze plaques in memory of Bain's achievements as a road builder and a geologist have been erected at Bain's Kloof and on the Eccra Heights, but his true monuments lie in Bain's Kloof itself, in the records of the Royal Geological Society and in the Africana and British Museums.

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Andrew Geddes BAIN (original photo in S A Museum)

### **PSSA 6, Golden Gate: 7 - 11 September, 1990**

Any member who would like to attend the Conference at Golden Gate, but who has not yet contacted Gideon Groenewald, please do so as soon as possible. His address is Golden Gate Highlands National Park, P O Golden Gate 9708. Telephone Kestell (014392) 2140 or Clarens (014326) 711.

The dates for the Conference are 7 - 11 September, the first three days are taken up with the presentation of papers. One-day excursions have been arranged for 10 and 11 September. For anyone interested, an additional two-day excursion to look at sequences of the Beaufort Group in the north-eastern OFS is being considered, with overnight accommodation on the farm Driekoppen.

Contact Gideon Groenewald right away if you want to be there!

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### **SIXTH BIENNIAL GENERAL MEETING OF THE PSSA**

Golden Gate: 9 September 1990

The Sixth Biennial General Meeting of the Palaeontological Society of Southern Africa will be held at Golden Gate on 9 September 1990, following the Biennial Conference. The Provisional Agenda, as recently circulated to Members, is:

1. Welcome
  2. Apologies
  3. Approval of the Minutes of the 5th BGM, held on 14 September 1988, at Graaff-Reinet. (The unconfirmed minutes of this meeting were published in *Pal News/Pal Nuus* 6 (1): 30 - 34).
  4. Matters Arising
  5. Hon. Treasurer's Report
  6. Hon. Editor's Report
  7. Election of Office Bearers
  8. Venue and Date for 7th Biennial General Meeting and Conference
  9. General
  10. Closure
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Members are invited to submit other items for inclusion in the agenda of the 6th BGM of the PSSA. Write to the Hon. Secretary, Dr Francis Thackeray, Dept. of Palaeontology, Transvaal Museum, P O Box 413, Pretoria 0001.

*Office Bearers for 1990-1992:*

Following the Constitution of the PSSA, the present Vice-President, Dr. Juri van den Heever, will be President for the period 1990-1992. The following nominations for other office-bearers for 1990-1992 have been received:

Vice-President: Dr Bruce Rubidge

Hon. Treasurer: Dr Roger Smith

(See also the "advert" for a new Editor below! Nominations are called for.)

**WANTED: One Editor for *Pal News***

Experience not essential, but an ability to persuade palaeontologists to put pen to paper, preferably before deadlines, would be desirable. Must be able to keep printing costs down and standards up...

If you are interested, please contact the Secretary (Francis Thackeray) at:

Dept of Palaeontology and Palaeoenvironmental Studies,

Transvaal Museum,

P O Box 413,

Pretoria 0001

(phone (012) 322-7632)

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**Natural History Museum (London) to close Depts of Fossil Birds, Mammals, and Plants?**

As part of its new "Corporate Plan", the Natural History Museum [its new name - formerly the British Museum (Natural History)] plans to close several departments, among them the departments of Fossil Birds, Fossil Mammals and Fossil Plants. The proposals have sparked off unprecedented strikes amongst the museum's scientific staff, and have been strongly criticized by scientists and institutions around the world. The battle continues ...

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