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Staff
During the past few years the National Museum has gone from strength to strength. During 2005 and 2006 no less than 35 appointments were made, bringing the number of employees to 125. Key vacancies in research departments have been filled and a number of support staff have also been appointed. In certain research departments, e.g. Archaeology, Florisbad Quaternary Research and Karoo Palaeontology, researchers and/or assistants have been appointed on contract, using Transformation Funding made available by the Department of Arts and Culture for Museum transformation projects in a broad context. This includes upgrading the displays in terms of accessibility (physical and content-wise) as well as skills development. These positive developments emphasise the valuable research carried out at the Museum.

Repairs and renovations
The Museum is presently undergoing major repairs and renovations. An amount of ± R17 million was allocated by the Department of Public Works for maintenance work at Oliewenhuis Art Museum and the main National Museum premises. The Museum is not merely being repainted, but more extensive work that has long been overdue is now being undertaken. The safety and comfort of visitors are high on the list of priorities, with aspects such as the replacement of all existing glass panels in the exhibitions with safety glass, the replacement of stairwell railings and the upgrading of the restaurant receiving attention. All Museum offices are being overhauled, from floor to ceiling. Certain storerooms for the collections are being upgraded to meet international standards.

As part of a separate project, closed-circuit television systems have been installed in both the main Museum building and Oliewenhuis Art Museum, to enable caretakers to monitor the exhibitions at all times.

Culna distribution
Since the first issue of the Newsletter of the National Museum (now Culna) was printed in 1971, copies have been distributed free of charge to schools and libraries in the Free State, to other museums and to interested individuals. However, after each mailing a significant number of copies of this publication are returned undelivered. To prevent such unnecessary expense in future, you are requested to complete the enclosed form and return it to the Museum so that our mailing list can be updated. The next issue of Culna will be mailed only to those from whom completed forms have been received.

Louise Coetzee
What, then, is evolution? Evolution is not the history, origin and future course of change via processes of natural selection; like all scientific concepts, evolution is only the idea that biological change is driven by natural selection. Scientists do not believe in evolution; they accept it as a paradigm for which no falsifying evidence exists to throw doubt on its validity. Sadly, the fact that scientists have made innumerable efforts to demonstrate falseness in evolutionary theory has never been well communicated, and members of the public continue to question evolutionary logic, searching for answers to irrelevant ‘unexplained mysteries’. Classic examples include:

The fossil record is incorrectly dated. This argument includes suggestions that humans and dinosaurs were not separated in time by millions upon millions of years, and stems from the common misunderstanding that the only evidence for evolution is the fossil record. The fossil record, however, is only a testing ground. Evidence for evolution itself is provided by what is observed in “real-time”, by the infinite and ever-changing diversity of life forms on Earth; new virus species appear every few months, character traits of livestock and agricultural plants change due to selective breeding, etc. Even the earliest ideas, such as those of Charles Darwin himself, were generated not from the fossil record, but from observations on the variety of life forms existing in modern times. The same can be said for theories on the origins of man – pioneers like Darwin and South African-born Eugene Marais drew conclusions based on comparisons between humans and other animals, conclusions that were only later (often posthumously) supported by fossil finds. While it is highly unlikely that man and dinosaurs ever co-existed, any evidence to the contrary would certainly not be sufficient to refute evolution as a principle.

The fossil record lacks intermediate life forms. No two life forms are identical; even individuals of the same species are different. Thus, all fossils are intermediate forms. In some cases entire evolutionary histories can be traced: the evolution of horses, transitions from reptiles to mammals and birds, and even (for the most part) the origins of man. Perhaps the best example of an ‘intermediate’ fossil is Archaeopteryx - well-known because it is associated with clear imprints of feathers, representing one of the first true birds. However, the skeleton of Archaeopteryx has many reptilian features; indeed, this animal was initially classified as a reptile before later discoveries revealed that it was a feathered creature. The principle of intermediate forms is equally applicable in “real-time”;

Charles Darwin (1809 - 1892).
each of us is the intermediate form between our parents and our children.

If humans evolved from monkeys, why do all monkeys not become human? This is easily the most anthropocentric view - that humans, with bent spine, flat feet, and countless other "imperfections" represent the most advanced form of life on the planet, the pinnacle of evolution. Bipedalism (standing upright) is often considered an example of human advancement on other animals, but one can look to theropod dinosaurs (and eventually birds), which were walking on two feet long before primates had even a chance to appear! Man became man because he adapted to a certain lifestyle some million years ago, while gorillas, baboons, lemurs and all other animals became suitably equipped to cope with their own needs. In many cases, other animals can be said to be more advanced and less flawed than humans. Who could argue that bats with their membranous wings and biological sonar systems are not superbly well adapted to a life of nocturnal flight, or that crocodiles are not quite comfortable and content in water? There is little need, or benefit, for such creatures to become human …

We humans have wormed our way into the precarious position of holding a large portion of the fate of Earth in our hands. And so, we have developed conservation strategies to stem the tide of stochastic (probable) catastrophe from global warming, habitat destruction, species extinctions, reduction of biodiversity and pollution. Traditionally, environmental management and conservation has ignored the evolutionary principle of continuous ecosystem change, so that conservation strategies, in place supposedly to protect threatened systems, have the opposite effect. Herding all non-human life into confined, fenced areas simply alters evolutionary trajectories by restricting migration routes, limiting resource bases, reducing genetic diversity, decreasing genetic integrity through inbreeding and hybridisation, domesticating wildlife, and irreversibly changing ecosystem structures via influx of non-indigenous species.

It is ironic that so many environmentalists fail to embrace evolution when omission of evolutionary theory from conservation practice so threatens biodiversity. Cases in which evolutionary principles have guided conservation are promising. Closure of artificial waterholes in the Kruger National Park has already begun the process of restoring ecosystem dynamics, with the almost immediate effect of stabilizing rare antelope populations. Re-introduction of fire in areas of the Western Cape has brought surprises by prompting seed-growth of plants previously thought to be extinct.

So, where to now? Certainly, evolution may turn out to be false but the signs are there that it is definitely worth exploring, if we wish for the global biosphere to survive beyond the next 100 years. The key is education, education to bridge gaps leading to confrontation between scientists and non-scientists; neither school of thought can claim to displace the other – the origins, the logic and the principles are too different. It is easy for scientists to remain aloof from what they perceive as a narrow-minded public influenced by fundamentalists, politicians and bureaucrats. It seems less easy for scientists to recognise their own shortcomings, but it is scientists who are miscommunicating and misleading the general population by remaining arrogant and aloof while educators and the media present science as fact. Scientists need to take every opportunity to work alongside educators, so that the principles of science, and its differences (not superiority) from other systems, can be understood by all, to create balance in the new millennium.

Further Reading
Die volgende stap is om ’n effektiewe moniteringsprogram op die been te bring wat kan dien as aanduiding van verandering in veldtoestande en tegelykertyd meer lig kan werp op die dynamika van die spesifieke ekosisteem - basiese inligting wat noodsaaklik is vir reservaatbestuur, asook die interpretasie van ekologiese studies wat mag volg. Dit is hier waar die Nasionale Museum se Departement Soogdierkunde betrokke is.  Daar word gepoog om ’n moniteringstelsel met permanente transekte in plek te hê voordat die eerste toeriste die gebied in 2009 besoek.

Oor die afgelope 10 jaar kyk ons na die aanwending van klein soogdiertjies as indikators van die omgewingstoestand van ’n verskeidenheid Vrystaatse grasvelde. Om verskeie redes kan die bestudering van hierdie diertjies perfek in die doel slaag soos vereis in die Srepok-bewaringsgebied.

Na die geweld en oorlog (Pol Pot, die Khmer Rouge en die Viëtnamese) in die tweede helfte van die 1970's is Kambodja in vele opsigte nog steeds besig om te herstel. Vandag is toerisme ’n groot inspuiting vir die land se ekonomie, en word pogings aangewend om juist hierdie bron van inkomste in bewaringsakseksies te gebruik. Alhoewel die Srepok-bewaringsgebied op die grens met Vietnam relatief ongeskonde blyk te wees in vergelyking met meeste ander dele van Kambodja, het die jare van oorlog en daaropvolgende swaarkry ook hier sy tol geëis. Op soek na voedsel, velle en traditionele produkte is veral die groter wild erg uitgedun. Die laaste Kouprey, ’n indrukwekkende wilde beesverwante-spesie, is na bewering in die 1960’s hier geskiet. Gelukkig is daar aanduidings dat getalle van die ander beesverwante-spesies (Banteng, Gaur en Waterbuffel), asook dié van olifante, primate (aapagtiges), voëls en van die groter katspesies (bv. Indo-Chinese tier en luiperd), besig is om in die bewaringsgebied te stabiliseer.

WWF Cambodia wil graag ’n moniteringsprogram gevestig sien wat 1) die reaksie van die ekosisteem op bewaringsmaatreëls soos teen-wildstropery-aktiwiteite, die versameling van tradisionele produkte op volhoubare skaal en later die impak van toerisme dophou, 2) basiese inligting verskaf vir ’n beter begrip van ekosisteem-funksionering (o.a. kort- en langtermyn wisseling in getalle/digtheide), 3) navorsingsprojekte kan help prioritiseer, 4) opleiding aan veldwagters verskaf en 5) inligting na die omliggende mense laat deursyfer. ’n Studie van kleinsoogdiertjies kan uitstekend in hierdie doel slaag, soos pas aangedui in ’n kort, week lange studie in twee van die dominantste habitatte in die Mondulkiriwoude, Kambodja, is sowat 30 maande gelede gestig met die oog op die bewaring van ’n baie unieke ekosisteem.”
Srepok-bewaringsgebied (semi-bladwisselende droë woud en digte bamboeshabitat).

Kleinoogdiertjies het as primêre en sekondêre verbruikers 'n direkte invloed op minstens twee vlakke van die ekosisteem. Hulle het 'n direkte invloed op plante as onder andere groei-stimuleerders, saad-verspreiders en grondbemesters en -deurlugters. So ook op ander organismes (sommiges mikroskopies) wat van hierdie grawers en kouers afhanklik is vir die voorbereiding van 'n mikrohabitat waar hulle kan leef. Verder dien hulle as primêre voedsel vir 'n groot verskeidenheid roofdiere. In ons Suider-Afrikaanse graswilde maak hulle tot meer as 60% van alle soogdierspiesies uit en kom in hoë digthede voor (tot meer as 300 per hektaar!). Vanweë hulle groot getalle en relatief vinnige metabolisme eet hulle baie plantes en insektes en hulle is op hul beurt weer die basiese voedselbron vir menige reptiele, roofvoëls en kannibale wat wissel van muishondjies tot jakkalse en die groter katte. Die getalle en diversiteit van kleinoogdiertjies het dus 'n belangrike direkte invloed op feitlik elke terrestriële ekosisteem op aarde. Kennis van hul fluktuasies, gedrags- en voortplantingspatrone is onontbeerlik om ekosisteemWerking te verstaan. Hulle word dus as uitstekende indikators van habitat-toestande beskou, maar ook as belangrike organismes om te bestudeer ten einde die dinamika in meeste terrestriële ekosisteme beter te verstaan.

Wat egter nog meer gewig aan die belangrikheid van die monitoring van hierdie diergroep gee bo die van bv. plante of insektes, is die feit dat gereelde herhalings van hierdie opnames redelik vinnig en goedkoop gedoen kan word, terwyl die identifisering van die onderskeie spesies gewoonlik maklik is. Die opname kan dus deur die veldwagters self gedoen word solank gestandar- diseerde metodes gebruik word. So kry hulle die ge- leenthed om met basiese “navorsing” ’n bydrae tot ekosisteembestuur te lever, die ekosisteem te verstaan en hierdie kennis aan beseokende navorsers, toeriste en omliggende gemeenskappe, selfs wildstropers, oor te dra.

Die eerste kleinoogdier-opname naby Meuruch in die Srepok-bewaringsgebied het as oogmerk gehad die insameling van basiese inligting oor kleinoogdiertjies ten einde ’n meer volledige monitoringsprogram tot stand te bring. Die werk word as suksesvol beskou omdat ons antwoorde kon vind op die volgende vrage: 1) watter kleinoogdiertjies (en) teenwoordig, 2) is die diertjies op die agt transekte waar ons versamel het in groepies of eweredig versprei, 3) is die diertjies reeds reproduktief aan die begin van die nat seisoen (tydens ons opname) en lyk dit volgens die populasiestatselaar...
asof daar ’n breuk in voortplantingsaktiwiteite was tydens die droë seisoen, 4) watter van die drie tipes valle wat gebruik is, is die suksesvolste, of is ’n kombinasie van valle noodsaaklik vir ’n volledige opname in die toekoms, 5) hoe ver behoor die valle uit mekaar gespasieer te wees en hoe lank moet die transekte wees, 6) hoe lank moet die vangperiode wees om die volle diversiteit te versamel, 7) is daar verskille tussen transekte binne dieselfde “homogene”-habitat en 8) dui die vangmetode die verskille in kleinoogdiergemeenskapsamestelling tussen verskillende habitatte aan.

Om enige verdere doeltreffende ekologiese studies of ’n monitoringsprogram op kleinoogdiertjies te probeer doen sonder hierdie inligting, sou onverantwoordelik wees. ’n Verdere groot pluspunt vir hierdie toekomstige werk is dat beide die veldwagters en die bosbou-beamptes geesdriftig aan die veldwerk deelgeneem het en lewendige besprekings deurentyd plaasgevind. Ons het egter besef dat, om meer opvoedkundige waarde hieruit te kry, ons ’n plakkaat in Khmer (die plaaslike taal) moet maak waarin die waarde van die werk en die betekenis van die resultate duidelik uitgestip word. Hierdie tipe projek was ’n eerste vir natuurbewaring in Kambodja en ’n paar WWF-beamptes het na aanleiding van ons voordrag aan die einde van die studie genoem dat hulle dit graag wil sien uitbrei, ook na van die ander parke in Kambodja.

Dr. Nico Avenant, hoof van die Departement Soogdierkunde by die Nasionale Museum was betrokke by ’n kleinoogdierstudie in die Srepok-bewaringsgebied, Mondulkiriwoude, Kambodja. Die spesifieke studie was ’n eerste vir Kambodja. Na Nico se voordrag aan WWF Cambodja, is voorgestel dat hierdie studie uitgebrei en in die bewaringsprogramme van die ander reservate in Kambodja ingesluit word.

**Fieldwork on an elephant - National Museum engaged in conservation project in Cambodia.** Nico Avenant. The Srepok Wilderness Area in Cambodia was established about 30 months ago. Dr Nico Avenant from the Mammalogy Department of the National Museum recently visited Martin von Kaschke at the Srepok Wilderness Area. They conducted a week-long study in two of the most dominant habitats here. The study looked at the abundance of small mammals and species diversity in order to determine the health of this ecosystem and to form an understanding of its dynamics. This study will contribute towards establishing an effective monitoring program for the Srepok Wilderness Area.

Die olifante word gelaai vir die navorsings-ekspedisie.
Met onlangse navorsing uit ou koerante vir ’n museumprojek is interessante inligting oor die eerste Vrystaatse treine opgediep ...

Reeds vir sowat anderhalf eeu is treine ’n algemene vervoermiddel in Suid-Afrika, maar hoeveel mense weet waar alles begin het? In 1862 is die eerste spoorlyn tussen Kaapstad en Wellington aangelê en in 1884 het die spoorlyn die Oranjrivier bereik. Alhoewel die moontlikheid van ’n spoorlyn vir die republiek Oranje-Vrystaat sedert 1875 jaarliks in die V olksraad bespreek is, was daar ook sterk teenkanting teen spoorwegontwikkeling. Redes hiervoor was onder meer ’n angstigheid dat die Vrystaat daardeur van die Kaapkolonie afhanklik sou word, asook ’n vrees vir die onkoste en moontlike skuld wat spoorwegontwikkeling sou meebring, terwyl die transportryers bang was dat die koms van treine hulle hul bron van inkomste kon ontneem. Gevolglik is die spoorwegontwikkeling voorlopig op die grens tussen die Kaapkolonie en die Vrystaat gestuit. Daar was hewige debatte tussen die voor- en teenstanders van die spoorlyn en in die koerante van daardie dae het gereeld briewe oor die saak verskyn.

Die ontdekking van goud aan die Rand en die gevolglike swaar verkeer deur die Vrystaat na die goudvelde het die behoefte aan treinvervoer egter laat toeneem. Die vrees dat die Vrystaat deur ’n spoorwegverbinding tussen Kimberley en Johannesburg heeltemal geïsoleer sou kon word, het die steun vir die aanlê van ’n spoorlyn deur die Vrystaat ’n verder hupstoot gegee. In 1888, kort voor president J.H. Brand se dood, het die Vrystaatse Volksraad die instelling van ’n spoorweg in beginsel goedgekeur. Hierna is daar heftig gedebatteer oor die beste en voordeligste roete wat die beoogde spoorlyn vanaf Norvalspont aan die Oranjrivier deur die Vrystaat sou volg. Brand is deur F.W. Reitz as president opgevolg en in Januarie 1889 het die eerste amptelike trein, sy lokomotief met Vrystaatse, Transvaalse en Britse vlae versier, die Bloemfontein-stasie oopverklaar. Dit het drie vakansiedae vol feesvieringe ingelui. Daar was ’n deftige noenmaal vir genooide gaste in die oordekte markgebou op die markplein, waar Cecil John Rhodes onder meer ’n heildronk op die voorspoed van Suid-Afrika ingestel het. Verder was daar ’n atletiek- byeenkoms, skyfskiet, perdewedrenne, boeresport, blasorskeutvoering, ’n revue en opvoering van die komiese opera "The Mikado", ’n fakkeloptog en ’n vuurwerkvertoning by die fort. Maitlandstraat en die markplein is saans met Chinese lanterns verlig en sommige inwoners het ook hulle huise verlig. ’n Tweede noenmaal is vir spoorwegwerknemers gehou, tewyl ’n bal...
vir sewehonderd gaste in die stadsaal aangebied is. ’n Groot tuinparty is in die tuin van die Goewermentsgebou aan die bopunt van Maitlandstraat gehou, waar roomys en koffie bedien is en verteenwoordigers van die vier Suid-Afrikaanse state bome geplant het.

Nadat Bloemfontein per spoor met Kaapstad verbind is, begin met ’n noordelike verlenging na die Vaalrivier. Reeds in September 1891 het die spoorlyn vanaf Bloemfontein Johannesburg bereik en in Januarie 1892 is die spoorverbinding na Pretoria voltooi.

’n Feit wat nie so algemeen bekend is nie, is dat die eerste lokomotiewe wat in die Vrystaat diens gedoen het, ’n opsigtelike helder oranje kleur geverf is, waarskynlik om te pas by die naam van die republiek, naamlik Oranje-Vrystaat.

Die Kaapkolonie se pers was glad nie beïndruk met die oranje kleur van die Vrystaatse lokomotiewe nie en het beweer dat dit lyk soos sirkusbaniere op wiele! Die Spectator, ’n koerant van Port Elizabeth, het in Oktober 1890 geskryf: “A couple of new locomotives, of the same pattern as the engines just erected for our own lines, have just been put together at the Uitenhage shops for the Bloemfontein extension. They are painted bright orange, the smoke stacks and portions of the frames, &c. being black. The effect is decidedly striking. It reminds one of Turner [William Turner (1775-1851) was een van die bekendste Engelse landskapskilders wat met dramatiese en besondere ligeffekte en helder kleure geëksperimenteer het]. What these machines will look like when decorated with oil and coal dust laid on by the hands of drivers and firemen, we don’t know. Anyhow, they won’t resemble circus posters on wheels as much as they do at present. The colour as it now stands is enough to give one the jaundice on sight.”

Omdat kleurfoto’s in die 1890’s nog nie bestaan het nie, kon die kleur van die lokomotiewe nie geverifieer word nie. Op swart-en-wit foto’s van die 1890’s is dit moontlik dat dit wel oranje was. Dit was klaarblyklik ’n algemene tendens om amptelike vervoermiddels van die Vrystaat oranje kleurig te verf. So is die poswa wat sedert 1890 gebruik is om die pos tussen die spoorwegstasie en die postkantoor te vervoer, ook oranje geverf en is die wapen van die Oranje-Vrystaat op die kante van die voertuig aangebring. Sommige van die Vrystaatse poskoete is ook geel of oranje geverf en met die Vrystaatse wapens versier.

Net soos met Cheetah-rugby vandag, was die Vrystaters in die 1890’s ook trots op die kleur oranje en het hulle dit graag as unieke kleur gebruik om hulle nasiegrootheid weer te gee. Dit is dus nie vreemd dat die Vrystaat in 1890 ’n oranje choo-choo gehad het nie.

Bronne
De Express, 21.10.1890; 11.11.1890; 9.12.1890.
The Friend, 22.08.1890; 23.09.1890; 31.10.1890; 11.11.1890; 20.03.1891.

The orange choo-choo of the Free State. Marianna Botes. In 1884 the railway line from Cape Town reached the Orange River. On 17 December 1890 the first railway track in the republic of the Orange Free State, from Norvalspont on the Orange River to Bloemfontein, was declared officially open. The arrival of the first official train in Bloemfontein was duly celebrated with decorations, athletics, horse races, musical performances, dances, receptions and firework displays. During recent historical research for a Museum project it was discovered that the first locomotives in the Orange Free State were painted a bright orange colour. The Cape newspapers of 1890 were not impressed with this. According to the Spectator of Port Elizabeth of October 1890, the gaudy orange-coloured Free State locomotives resembled circus posters on wheels, and the colour was “enough to give one the jaundice on sight”.

Die eerste lokomotief in gebruik op die spoorlyn tussen Norvalspont en Bloemfontein. Foto geneem deur H.B. Austin by Kaalspruit in September 1890. Dit is nie duidelik of dit een van die oranje lokomotiewe was nie.
One of the most fascinating, yet relatively unknown and untainted places to explore in South Africa is Langebaan and its surrounds, situated on the West coast, about 110 km north of Cape Town. Here, between the azure Atlantic Ocean and serene beauty of the west coast fynbos, lies a treasure trove that provides a window into a long forgotten past, something which few South Africans are aware of. In this tranquil countryside, enveloped in the west coast wildlife of daisies and vygies, tortoises and dassies, ferocious sabre-toothed cats and enormous bears weighing more than half a ton are the last images that come to mind. Today, the largest animal one is likely to encounter is an eland, and the most ferocious is probably the caracal, but once, a long time ago, strange creatures, some as fierce as lions and others as large as elephants, roamed there.

The West Coast Fossil Park is a place where you can escape to another world.

The fossils recovered from the site include sabre-toothed cats, a bear weighing more than half a ton, sivatheres, three-toed horses, elephant-like gomphotheres which are thought to have sported two pairs of tusks, numerous species of birds and reptiles, plant remains, pollen spores, seals and sharks (from an estuarine deposit). They reveal a unique picture of an ecosystem of five million years ago. But, when the story is further
unravelled, a daunting reality is revealed - life in crisis! A global cooling caused the tropical and sub-tropical environments to become more temperate, which cleared the way for the expansion of open grasslands. The animals living during this transition period had to cope and adapt to these environmental changes, or perish.

Recently Dr Tamara Franz-Odendaal, a scientist interested in the effects of environmental change on the animals at Langebaanweg, conducted research on the significant defects that had already been noted in the teeth of many sivatheres. As the environment was changing from forest to grassland, it is possible that the defects in their teeth were caused by the decline or absence of their usual food. Whatever the reason, the sivatheres were under severe stress. They did not adapt to the changing environment and so became extinct. Another animal from the site that became extinct was the largest terrestrial carnivore to inhabit southern Africa since the Miocene (about 15 million years ago). This was Agriotherium africanum, the first bear, living or fossil, ever recorded in sub-Saharan Africa. It was as large as the living Kodiak bear and almost exclusively carnivorous, like the polar bear. However, its closest living relative is the giant panda of China, the most herbivorous of all living species of bears. It is not surprising that this fascinating African curiosity has captured the attention of many scientists around the world. The sabre-toothed cat also became extinct, even though it was one of the most formidable predators of its time. It was as large as a lion and had greatly elongated, deadly sharp, upper canines with which to pierce its prey. The reason these animals became extinct is still uncertain. Scientists have suggested that the rise of other large cats such as lions and leopards led to the extinction of the sabre-tooths because the more modern large predators were better equipped to survive in the new environment. However, there is evidence for the co-existence of the sabre-tooths with the modern cats for prolonged periods, so the mystery is far from solved.

There are also many species found at Langebaanweg that are familiar and, although now somewhat altered, have survived into the modern world. For example, a long-necked giraffe (belonging to the same family as the sivatheres), which does not differ significantly from today’s species, has been discovered. Several species of hyaena, the probable ancestor of the white rhino, and many birds, lizards and frogs are also common amongst the fossils of Langebaanweg. These are all familiar animals of today’s ecosystems, although giraffe, hyaena and white rhino are no longer found anywhere near Langebaan as a result of over-hunting by early colonial settlers.

Countless research projects have been based on the hundreds of thousands of fossils, representing hundreds of different species. However, there is still much work to be done! The Park is easily accessible, being just around the corner from Cape Town, and provides an ideal opportunity for school children, students and the general public to learn about ancient environments, the effects of climate change on animal and plant life and the extraordinary creatures that existed in a world decidedly different from today. The site is now regarded as the location of one of the most diverse fossil assemblages in the world, which makes a visit a truly unique experience.

Illustrations from Iziko: South African Museum.

Thanks to Pippa Haarhoff for information.

Dr Jennifer Botha, a palaeontologist at the National Museum in Bloemfontein, studies ancient animals and their palaeoenvironment. South Africa contains some of the best examples of ancient life in the world, including some of the earliest forms of life that lived about 3.3 billion years ago, the ancestors of mammals that lived between 260 and 190 million years ago, and true mammals that lived about 3 to 5 million years ago.

Illustrations from Iziko: South African Museum.
Hoep-hoepe en Kakelaars
se chemiese oorlogsvoering

Dawie de Swardt

Terwyl alle voëls die olies wat deur hulle olieklier (of uropigiale klier) afgeskei word vir die versorging van hulle veredos gebruik, vervul die afskeidings van hoep-hoepe en kakelaars ’n belangrike bykomende funksie. Hierdie afskeidings ruik uiers onaangenaam en dien as ’n baie effektiewe afskrikmiddel teen vyande – ’n unieke vorm van chemiese oorlogsvoering.

Kakelaars en hoep-hoepe behoort tot die orde Upupiformes. Hulle was tot onlangs in twee families geklassifiseer, maar volgens die nuutse Roberts-klassifikasie word die Rooibekkakelaar (*Phoeniculus*) en die Swartbekkakelaar (*Rhinopomastus*) nou in aparte families ingedeel op grond van verskille in roep en broeigedrag.

Die Hoep-hoepe (*Upupa africana*) is ’n baie algemene tuinvoël met sy kenmerkende manier om sy snawel in die gras of die grond in te steek op soek na insekte. Sommige mense is onder die indruk dat daar ’n baie onaangenaam reuk aan die hoep-hoepe kleef, maar by volwassenes is dit nie die geval nie. Hoep-hoepe broei meestal in die ou nesgate van houtkappers, spegte, speeus of byvreter en in sandwalle of selfs in miershope. Na ’n broeiperiode van ongeveer 16 dae bly die kuikens vir nog nagenoeg 32 dae in die nes voordat hulle buite die nes sit en wag vir kos. Dit is dan wanneer die kuikens se verdedigingsgedrag in werking tree. Die kuikens sal vir ’n indringer blaas en sis en hulle stink reuk as verdedigingsmeganisme af skei deur middel van ’n slymerige vloeistof van die olieklier. By hoep-hoepe raak die olieklier aktief teen die sesde dag wanneer die kuikens nog in die nes is en dit bereik teen die twaalfde dag ’n maksimum grootte. Vanaf ongeveer die dertigste dag begin hulle ’n reuklose geel olie afskei wat wel olierige verbindings bevat, maar wat hoofsaaklik uit ’n dun suspensie van ligte organiese verbindings in water bestaan. Volwassenes het dus geen stink reuk wat met hulle afskeidings geassosieer word soos voorheen geglo is nie.

Die Rooibekkakelaar (*Phoeniculus purpureus*) is ’n sosiale spesie en kom in familiegroepe van tot 14 individue voor. Hierdie voëls is bekend vir hulle
Horses were the main mode of transport, apart from weary feet, for the British army at that time. The railways could only transport people and supplies between the major centres. Conditions in the field were at times horrific, and a constant supply of horses were needed to replace those which had been killed in battle, or had died through sickness, exhaustion or lack of proper care. To this end the British army had remount camps in various places. The camp at Stellenbosch was the Remount Camp headquarters – it was also the place where incompetent officers were sent, hence the phrase “to be Stellenbosched”, which basically means to be moved to where the incompetent person can do no damage. An Official Enquiry into the administration of the Army Remount Depot held in London in 1902 concluded that there had been a “wastage of seflesh of 120% per year” since 1899.

There were various military installations at Bloemfontein, including barracks on top of Naval Hill. Ten kraals were situated on the northern end of the hill and no.1 Remount Depot on the eastern side. The white horse on Naval Hill supposedly dates back to the war and indicated to returning soldiers where to head for remounts. A horse skeleton, leather straps, iron buckles and horseshoes were uncovered in a municipal trench in Andries Pretorius Street a few years ago, which support the existence of the remount station in that area. The large remount depot at Bloemfontein was an issuing depot with two farms, and was supported by smaller, resuscitating depots at Heilbron, Winburg and Springfontein.

The concentration camp for Boer women and children was situated to the west of Bloemfontein, in the area of today’s Dam van transe, on the western side of the military base at Tempe. The area to the north-east of Tempe is today referred to as Rayton and Hillsboro. This area formed the link between the army camp at Tempe and one of the Remount Farms, known as Hillandale. Hillandale was owned by Abraham Fischer, State Attorney for the Free State, and was expropriated by the British along with the Tempe farms. In the military correspondence it is referred to as Fischer’s Farm. The other remount farm was known as Lynch’s Farm and was probably in the region of Lynchfield of today. The Tempe Farms were originally expropriated as grazing for the horses of the South African Constabulary in August 1901 and eventually bought by the War Office in 1904.

The Tempe camp was laid out in a regular form. To the east of the camp were the water towers. Today there is still a water reservoir on the spot which can be seen from quite a distance. There was a wall which ran from the
Horses were the main mode of transport, apart from weary feet, for the British army at that time. The railways could only transport people and supplies between the major centres. Conditions in the field were at times horrific, and a constant supply of horses were needed to replace those which had been killed in battle, or had died through sickness, exhaustion or lack of proper care. To this end the British army had remount camps in various places. The camp at Stellenbosch was the Remount Camp headquarters – it was also the place where incompetent officers were sent, hence the phrase “to be Stellenbosched”, which basically means to be moved to where the incompetent person can do no damage. An Official Enquiry into the administration of the Army Remount Depot held in London in 1902 concluded that there had been a “wastage of seflesh of 120% per year” since 1899. There were various military installations at Bloemfontein, including barracks on top of Naval Hill. Ten kraals were situated on the northern end of the hill and no.1 Remount Depot on the eastern side. The white horse on Naval Hill supposedly dates back to the war and indicated to returning soldiers where to head for remounts. A horse skeleton, leather straps, iron buckles and horseshoes were uncovered in a municipal trench in Andries Pretorius Street a few years ago, which support the existence of the remount station in that area. The large remount depot at Bloemfontein was an issuing depot with two farms, and was supported by smaller, resuscitating depots at Heilbron, Winburg and Springfontein. The concentration camp for Boer women and children was situated to the west of Bloemfontein, in the area of today’s Dam van trane, on the western side of the military base at Tempe. The area to the north-east of Tempe is today referred to as Rayton and Hillsboro. This area formed the link between the army camp at Tempe and one of the Remount Farms, known as Hillandale. Hillandale was owned by Abraham Fischer, State Attorney for the Free State, and was expropriated by the British along with the Tempe farms. In the military correspondence it is referred to as Fischer’s Farm. The other remount farm was known as Lynch’s Farm and was probably in the region of Lynchfield of today. The Tempe Farms were originally expropriated as grazing for the horses of the South African Constabulary in August 1901 and eventually bought by the War Office in 1904. The Tempe camp was laid out in a regular form. To the east of the camp were the water towers. Today there is still a water reservoir on the spot which can be seen from quite a distance. There was a wall which ran from the...
water towers to the edge of Fischer’s Farm. The southern boundary at least of Fisher’s Farm was demarcated by another low stone wall. Sections of these walls can be seen in the Botanical Gardens, behind the Bloemfontein Spa, and running across the veld in the Lilyvale area behind the Free State Residential Care Centre (Nasorgsentrum).

The walls are constructed in straight lines and consist of large dolerite boulders on the outside faces, with smaller rocks packed in the inside. The walls are mostly not higher than about one metre, and it is unlikely that they were built to keep horses in an area. It is more likely that they were built merely to demarcate areas of military use. There are numerous lookout posts along the walls and also in the koppies in the area, including several lookout posts located on what used to be the Johnny Ralfe Estates or Bloemendal.

The Royal Engineers’ camp was at Tempe. The Royal Engineers also undertook extensive building works in Bloemfontein. It is therefore highly probable that they were responsible for building the wall along the southern boundary of Fischer’s Farm and the connecting wall to the water tanks.

Two photographs from the National Museum’s collection, taken during the War, indicate that building walls across the landscape was not confined to Bloemfontein. One of the photographs is of the camp at Slingersfontein. The neat rows of tents and lines of horses are clearly visible. Also evident in the photograph is a long, low wall across the neck between the two koppies in the background. In the second photograph two soldiers are signalling to a lookout on another hill. Across the middle of the photograph a similar long wall divides the veld. These walls would have served a defensive purpose to a degree, but their construction was almost certainly also one of the ways in which soldiers, stationed in places away from the action, were kept fit and busy.

The Archaeology Department is currently mapping, and investigating in detail the traces of British occupation left on this section of the landscape. We hope to record as much as we can before it is obliterated by the flood of building developments that are taking place in the area.

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Die agtbenige "ysbere" van Antarktika

Lizel Hugo

As mens van Kaapstad af suid vaar teen 12,5 knope (23 km/h) vir ongeveer agt dae, dan bereik jy die koudste en droogste kontinent op aarde: Antarktika. Die temperatuur op Antarktika wissel van -40 tot -70 ºC in die winter en van -15 tot -35 ºC in die somer. Die koudste temperatuur sover gemeet op Antarktika (en op aarde) was -89 ºC. ’n Spesiale termometer is nodig om die koue temperature te meet.

Verder is die gemiddelde reënval in die binneland van Antarktika ongeveer 50 mm per jaar. Hierdie klimaat veroorsaak dus dat die kontinent permanent met 'n dik yslaag bedek is.

Daar is mense wat dapper genoeg is om na Antarktika te gaan, hetsy as 'n navorser of as 'n toeris. Maar al hoe in die onherbergsame plek oorleef kan word, is om spesiale klere te dra, in verwarmde basisse te bly, baie kos te eet, sneeu te smelt vir water en hoogs geëxploreerde navigasietoerusting buite die basis te gebruik.

Daar is bewyse dat die temperatuur in Antarktika oor die afgelope 30 tot 50 jaar gestyg het, en daar word voorspel dat die styging in die toekoms sal voortgaan. Neerslag is ook deesdae eerder in die vorm van reën in plaas van sneeu wat die water dadelik vir organismes beskikbaar maak. Die beter klimaat kan dit makliker maak vir indringerspesies wat deur mense na Antarktika versprei word, om gevestig te raak. Veral nou met verhoogde toerisme na Antarktika en die sub-Antarktiese eilande is die risiko vir die inbring van nuwe spesies heelwat hoër as in die verlede.

Indringerspiesies is heelal meer onvoorspelbaar en verhoudingswerklik onvoorspelbaar en kan nie onderskei word van die inheemse spesies nie. Indringerspiesies is regtig pekel vir die inheemse spesies, want dit kan hulle dode of baie beperk. Hierdie risiko en gevolg moet opgeloste word deur die regerings te beveilig om te voorkom dat inheemse spesies verwoest word.

Verder het die ysmeer van die ysbekken amper nie beskikbaar nie en hulle oorleef vir lank per jaar. Die ijslade van die ysbekken word veroorsaak deur die oorlewing van ys in die ysbekken. Die ysbekken het amper geen temperature wat lager is as -30 ºC en dit is moeilik om in te oorleef.

Die yslandskap van Antarktika.

Sodoende word die yslandskap van die ysbekken van die ysmeer wat verwoest word deur die ysbekken. Die ysbekken het amper geen temperature wat lager is as -30 ºC en dit is moeilik om in te oorleef.
Gletserskeure in Antarktika maak dit gevaarlik om daar rond te loop.

Bronne


Mites – the eight-legged “polar bears” of Antarctica.

Lizel Hugo. The interior of Antarctica is the coldest and driest place on earth. The coldest temperature ever recorded was -89 ºC, while mean annual rainfall is 50 mm. People can survive here, but only with sophisticated housing and equipment. However, mites have survived these harsh conditions for thousands of years. These creatures have various mechanisms to survive freezing and dehydration. Two strategies have been developed to survive freezing, i.e. freeze avoidance and freeze tolerance. Climate change is affecting the Antarctic climate and a better climate can favour the establishment of alien species, which may be detrimental to the survival of indigenous species. The introduction of alien species to Antarctica by humans should be minimized, and tourism and research on Antarctica need to be strictly controlled.
Wolff Ehrlich (1855-1924), 'n Duitse Jood, het vanaf Duitsland na Suid-Afrika geëmigreer en hom in 1877 in Bloemfontein as handelaar gevestig. Hy was in sy tyd een van die bekendste openbare persoonlikhede uit die geskiedenis van vroë Bloemfontein. Ehrlich was jare lank stadsraadslid en het een termyn as onderburgemeester (1905) en drie as burgemeester (1906, 'n deel van 1907 en 1911/12) gediend. Sy tweede termyn was taamlik omstrede en hy het dit nie voltooi nie. Ehrlich het hom ook met die politiek bemoei. Deur die jare het hy hom in 'n aantal uiteenlopende politieke partye tuisgemaak en teen die einde van sy lewe as senator van die Nasionale Party gediend.

Maar dit was stellig sy jare lange onbaatsugtige gemeenskapsdiens en liefdadigheidswerk in Bloemfontein – en dan veral onder die Joodse gemeenskap – wat sy naam in die annale van die stad vasgebeitel het en waarvoor hy onthou sal word. Sy bedrywighede in Joodse gemeenskap- en kerskawag was inderdaad uiteenlopend en verreikend sodat hy deur die jare uitgesonder is as een van die grootste voorstryders vir Joodse belange in Bloemfontein.

Weens sy opregte en ywerige belangstelling in Joodse aangeleenthede en verstandige advies het hy mettertyd as raadgewer, vriend en voog van sy geloofsgenote in die stad opgetree. Dit was allereerwa opvallend dat hy 'n diepgegronde strewe gehad het om die geloofsbelange van sy gemeenskap uit te dra en te bevorder. Ehrlich het hulle deurgaans aangeraai om harmonies in hul eie gemeenskap saam te werk, maar hulle daaraan herinner dat hul 'n onlosmakelike deel van die mense van die Vrystaat was. Selfs toe hy later as senator aangestel is en sy teenwoordigheid dikwels in Kaapstad vereis is, het hy nooit gehuier nie om na Bloemfontein terug te keer wanneer daar nood in sy gemeenskap was wat sy aandag geveer het.

Ehrlich was in 1903 as president van die Hebreeuse gemeente in Bloemfontein gekies en het dit tot sy afsterwe gebleef. Hy was aktief gemoeid met die strewe van die Joodse gemeenskap om na die maatskaplike belange van sy lede om te sien soos die versorging van die oues van dae, ondersteuning van siekes of treurendes by die afsterwe van geliefdes en om behoeftiges, veral vroue en kinders, behulpsaam te wees. Hy het geen geringe aandeel daarin gehad nie dat die Jewish Helping Hand and Burial Society in 1902, Jewish Women’s Benevolent Society in 1903 en die Sick Benefit and Loan Society in 1904 tot stand gekom het waaraan hy altyd bereid was om op die bestuur van die organisasies te dien.

In 1903 het Ehrlich ook deur volgehewe ywer daarin geslaag om die overheid te oortuig dat die Joodse gemeente ook gereguleer is op 'n regeringsstoelae soos van toepassing op ander kerklike instellings. Aanvanklik is die versoeke gewee omdat
die regering besig was om die toegewing uit te faseer. Ehrlich het hom nie hierdeur van stryk laat bring nie. Hy het voortgegaan om te pleit dat so lank die bepaling geld dit niks minder as reg is nie dat die Joodse gemeente, wat intussen sterk gegroei het, ook die voordeel daarvan geniet. Sy oorredingsvermoë het daartoe gelei dat die regering ingestem het om jaarliks 'n bedrag van £100 aan die Hebreeuse gemeente van Bloemfontein toe te staan.

Die oprigting van 'n sinagoge was die ideaal waarna almal gestreef het. Die stadsraad het goedgunstelik 'n erf beskikbaar gestel. Voordat die Anglo-Boereoorlog (1899-1902) is reeds begin met fondsinsameling en na vrede bewerkstellig is, het die proses met intensiteit toegeneem. Ehrlich was in beheer van die fondskomitee en in dié hoedanigheid was hy bemagtig om 'n lening aan te gaan wat saam met die skenkings, selfs so ver as Engeland, genoeg was sodat die hoeksteen reeds op 6 Mei 1903 deur die waarnemende luitenant-goewerneur van die Oranjerivierkolonie, H.F. Wilson, gelê is. Te midde van groot belangstelling en in die teenwoordigheid van die hoëlui van die stad is die sinagoge, die eerste in die Vrystaat, op 20 Maart 1904 geopen. Ehrlich is ook met 'n silwersleutel en adres vereer uit waardering vir sy harde werk om die sinagoge, “a memorable epoch in the history of Judaism in Bloemfontein”, te verwesenlik.

Ehrlich het tydens sy toespraak by die opening van die Bloemfonteinse sinagoge die spoedige totstandkoming van 'n Joodse religieuse skool bepleit. Hierin is hy heelhartig ondersteun deur rabbi Z. Lawrence wat in 1904 aangestel is. Dit het weldra beslag in die kamers van die sinagoge gekry en is voortgesit in 'n klaskamer wat in Elizabethstraat gehuur is. Ehrlich is deur die gemeente versoek om in 'n skoolkomitee te dien wat die Hebreeuse skoolkultuur moes bevorder. Aan die einde van 1905 het die onderwysdepartement toestemming verleen dat klasse in die Hebreeuse taal in skole soos Grey-kollege en die Hoërskool Eunice aangebied word. Vanweë die groei van die Joodse gemeenskap en die behoefte vir bymekaarkompleksse in Bloemfontein is daar in 1918 op die terrein van die sinagoge 'n gemeenskapsaal opgerig waarvan Ehrlich die hoeksteen gelê het. Kort hierna is klaskamers tot die saal gevoeg om in die behoefte te voldoen aan verdere Hebreeuse opvoeding te voorsien.

Die totstandkoming van 'n verenigde South African Jewish Board of Deputies in 1912 was stellig die grootste bydrae wat Ehrlich gelewer het in die ontwikkelingsgeskiedenis van die Jode in Suid-Afrika. Hy het na Uniewording in 1910 'n beslissende rol gespeel in die besluit van die Joodse gemeenskap in die land dat 'n sentrale organisasie om hulle belange te dien noodsaaklik is. Deur die initiatief van Ehrlich en die voordeel van Bloemfontein se sentrale ligging is die stigtingskongres hier gehou. Nie alleen was Ehrlich in die voorsitterstoel nie, maar hy is ook as die eerste president van die organisasie gekies, voorwaar 'n groot eer wat hom beurt geval het na al sy onbaatsugte opoffering om Joodse belange te bevorder. Op 4 Augustus 1914 het Ehrlich as president die eerste kongres na stigting van hierdie Joodse raad in die stadsaal van Kimberley geopen.

Geen wonder die pers sou na sy afsterwe opmerk: “Waar die oorledene meeste gemis sal word, is in die Joodse gemeenskap in Bloemfontein.” Die woonbuurt Ehrlichpark en Ehrlichstraat in Bloemfontein is na hom vernoem.

Bronne
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The Jewish Tribune, 6.6.1913.
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Once upon a time on a planet called earth ...

Sandra Bishop

At the end of the Geology Hall in the National Museum is an interesting model of various landscapes, sectioned in front to show what exists under the surface. It attracts young visitors in particular because it portrays a section through a volcano, in which the magma has an exciting red glow. The model also portrays many other aspects of the fascinating story of our ever-changing Earth. It illustrates the conditions under which various types of rocks formed. Representative specimens of the different rocks are displayed on the floor of the showcase in front of the model. This article tells briefly the age-long stories depicted by the model.

Desert

In a dry, arid place the wind blows for millions of years. The wind-blown sand acts like sandpaper on the rocks, grinding them down to create more sand. The shifting sand piles up to form dunes. Between the dunes are shallow pans that sometimes contain water, at least at first, before the dryness intensifies. The water contains minerals dissolved from the sand and rocks it passed through. When the water evaporates the minerals are left behind (known as evaporites – an example of chemical sedimentation). Some well-known minerals laid down in this way are halite (we all know it – rock salt!) and gypsum from which plaster of paris (gips) is made. Gypsum crystals sometimes form beautiful structures known as “desert rose”.

Over millions of years the sand consolidates to become sandstone, which may in time be raised by movements of Earth’s crust. Softer areas erode away and harder areas remain as sandstone mountains. The cream-coloured and reddish sandstone mountains of the eastern Free State, Lesotho, Drakensberg and northern Eastern Cape are the remains of a desert that covered large parts of South Africa some 200 million years ago. Studying sandstone layers, scientists can see whether the original sand was carried by water or wind-blown, and the direction in which the water flowed or the wind blew.

Folded mountain

This mountain did not always exist. Where it now stands there was once a shallow sea. On the seabed sediments slowly built up - pebbles, sand and mud, and then thick layers of calcium carbonate (calcite). The latter was a chemical precipitate but it had mainly an organic origin from the bodies and secretions (such as shells) of millions of little sea animals, which first dissolved in the water and then settled out as sediment. Over millions of years the sediments hardened – the pebble layer became conglomerate, the sand sandstone, the mud shale (layered mudstone) and the calcium carbonate limestone. Then they were lifted and folded by crustal movements (the same movements that cause continental drift) and became mountains.
Glaciers are weird calcite structures hanging from cave ceilings years the deposits build up into beautiful and sometimes deposits it where the water drips. Over thousands of through the rocks dissolves calcium carbonate and then containing magnesium as well as calcium carbonate.

In limestone and dolomite caves water permeating through the rocks dissolves calcium carbonate and then where limestone is below the water table, sinkholes and underground rivers form passages and caverns in the run through and dissolve the rock, sandstone which can still be seen cutting through the river channels hardened into rock rubble called moraines. Over time moraines consolidate to form a rock called tillite. Where this type of rock is found today we know that there were once glaciers. Such rocks in parts of South Africa are proof that our country was covered with ice about 300 million years ago (it was then positioned over the South Pole!).

Cave
Limestone is very soluble in rainwater. As the rainwater runs through and dissolves the rock, sinkholes and caves form. Where limestone is below the water table, underwater rivers form passages and caverns in the rock. The famous Cango Caves near Outshoorn resulted from such an underground river system, which was finally lifted above the water-table and dried out. Cango’s rock is dolomite, which is related to limestone, containing magnesium as well as calcium carbonate.

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References

Delta
A delta forms where a large river spreads out in many channels and mouths as it enters a sea or lake. It creates a swamp where thick layers of dead vegetation pile up in the mud. These layers become buried under the mud and tightly compressed. Instead of rotting away, they consolidate to form a carbon-rich rock of organic origins which we call coal. Peat is an early stage in coal formation.

Beach
Beaches consist of sand, shells or pebbles, or a mixture thereof. Buried under newer sediments and undisturbed for millions of years, they harden into rocks such as sandstone, pebble conglomerate and shell conglomerate.

Metamorphic rocks
These are older rocks buried under newer sediments and changed by heat and pressure deep in Earth’s crust, or rocks altered by the heat and pressure of nearby volcanic activity or crustal movements.

Volcano
The processes that change Earth’s crust are, for the most part, slow and gradual, but volcanoes bring about sudden and often violent change. Volcanoes are vents for Earth’s internal heat. They also serve as “lungs”, playing an important part in the long-term recycling of Earth’s gases. And they build new crust and new land.

Magma is melted rock from deep within our planet. When it spills onto the surface we call it lava. It solidifies to form igneous rocks (igneous means “of fire”). The type of igneous rock depends on the chemical composition of the magma or lava and the conditions under which it solidifies. Magma that solidifies deep under the surface can eventually appear as rocks on the surface when erosion wears away the rock layers above it. Granite is an igneous rock that cooled and solidified very deep under the surface. Some granites are among the oldest rocks on Earth and form the basement rocks of continents.

Volcanoes behave in a variety of ways, from comparatively peaceful outpourings of lava to violent explosions and collapse. Besides lava, they can also belch out fiery super-heated gases and dust, or bury the surrounding countryside in suffocating layers of volcanic ash. Yet volcanic ash eventually becomes very fertile soil – and ultimately, under suitable conditions, hardens into rock again.

Delta
A delta forms where a large river spreads out in many channels and mouths as it enters a sea or lake. It creates a swamp where thick layers of dead vegetation pile up in the mud. These layers become buried under the mud and tightly compressed. Instead of rotting away, they consolidate to form a carbon-rich rock of organic origins which we call coal. Peat is an early stage in coal formation.

Beach
Beaches consist of sand, shells or pebbles, or a mixture thereof. Buried under newer sediments and undisturbed for millions of years, they harden into rocks such as sandstone, pebble conglomerate and shell conglomerate.

Metamorphic rocks
These are older rocks buried under newer sediments and changed by heat and pressure deep in Earth’s crust, or rocks altered by the heat and pressure of nearby volcanic activity or crustal movements.

Volcano
The processes that change Earth’s crust are, for the most part, slow and gradual, but volcanoes bring about sudden and often violent change. Volcanoes are vents for Earth’s internal heat. They also serve as “lungs”, playing an important part in the long-term recycling of Earth’s gases. And they build new crust and new land.

Magma is melted rock from deep within our planet. When it spills onto the surface we call it lava. It solidifies to form igneous rocks (igneous means “of fire”). The type of igneous rock depends on the chemical composition of the magma or lava and the conditions under which it solidifies. Magma that solidifies deep under the surface can eventually appear as rocks on the surface when erosion wears away the rock layers above it. Granite is an igneous rock that cooled and solidified very deep under the surface. Some granites are among the oldest rocks on Earth and form the basement rocks of continents.

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So the rocks tell us the story of past landscapes …
Die naam "Tarantula" is eintlik 'n verkeerde benaming, aangesien dit in werklikheid verwys na die wolfspinnekop, *Lycosa tarantula*, wat in die suide van Europa voorkom. Die ander naam wat ook nie heeltemal pas nie, is die Engelse naam "Bird-eating spider". Bobbejaanspinnekoppe, selfs die groot soorte van Suid-Afrika, maak nie normaalweg jag op voëls nie, maar sal wel een vang as hulle 'n voël kan baasraak. Die naam bobbejaanspinnekop is weer afkomstig van die dik, harige pote van hierdie spinnekoppe wat mens aan bobbejaanvingers herinner.

Die spinnekoppe wat in Suider-Afrika oor die algemeen bobbejaanspinnekoppe genoem word, behoort tot die spinnekopfamilie Theraphosidae. In Suider-Afrika is daar sover sewe genera en 42 spesies van hierdie spinnekoppe bekend.

Alhoewel bobbejaanspinnekoppe in die filmbedryf as monsters uitgebeeld word, is hulle gewoonlik nie aggresief of uitermatig giftig nie. Om die waarheid te sê, is van die Suid-Afrikaanse spesies baie pieperig en kan in aanhouding maklik van stres doodgaan.

In die natuur leef bobbejaanspinnekoppe normaalweg onder klippe en stompe, waar hulle óf tunnels óf holtes maak wat met digte sy uitgevoer word. Hulle maak egter ook soms tunnels in die oop veld. Die tunnels gaan gewoonlik redelik skerp in die grond af tot by die nesholte, waar die spinnekop bly. Soms maak die spinnekoppe ook sy-gange wat blind kan eindig of as 'n tweede uitgang dien. Die spinnekoppe beweeg gewoonlik nie ver van hierdie gate af nie en sit in die aand by die ingang en wag vir hulle prooi om verby te kom. Gedurende die dag skuil hulle dieper af in die gat of holte. Tydens paartyd sal mannetjies egter uitbeweeg om 'n wyfie te gaan soek. Derhalwe word die mannetjies meer opgemerk.
Baboons on eight legs – the tarantulas of Africa. Leon Lotz. Baboon spiders are the largest and longest-lived spiders in the world. They are represented in southern Africa by 42 species and occur in a variety of habitats. These spiders live beneath rocks and tree stumps where they make silk-lined tunnels. They normally do not go far from their tunnels, ambushing their prey just outside. Unlike their horror portrayal in films, these spiders are relatively docile creatures with a mildly venomous bite. Baboon spiders are inactive during the day and do not move around much even at night.

Bronne


Baba's on eight legs – the tarantulas of Africa. Leon Lotz. Baboon spiders are the largest and longest-lived spiders in the world. They are represented in southern Africa by 42 species and occur in a variety of habitats. These spiders live beneath rocks and tree stumps where they make silk-lined tunnels. They normally do not go far from their tunnels, ambushing their prey just outside. Unlike their horror portrayal in films, these spiders are relatively docile creatures with a mildly venomous bite. Baboon spiders are inactive during the day and do not move around much even at night.

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Bronne


Valuable Art Collection
Returned to the People of South Africa

Sharon Crampton

Thanks to the vision and financial backing of the Department of Arts and Culture, Oliwenhuis Art Museum received from The Haenggi Foundation Incorporated a major donation of 228 artworks by South African artists, which formed part of the original PELMAMA Permanent Art Collection. As a result of funding received from the Department of Arts and Culture covering the costs relating to packing, transport and insurance from Basel, Switzerland, to South Africa, it was agreed that all the works which had previously been on temporary loan to Oliwenhuis Art Museum from The Haenggi Foundation Incorporated would henceforth be considered as an outright donation to the Museum. The collection of works donated represents the largest single donation of artworks that this Museum has ever received.

The collection of South African artworks produced between 1970 and 1980 arrived in Bloemfontein on 4 May 2006 and includes political, resistance and religious themes rich in multiplicity and in media. Artists include Norman Catherine, Dan Rakgoathe, James Serole Mphahlele, Dirk Meerkotter, Cyprian Shilakoe, Lucky Sibiya, Lucas Sithole and Walter Battiss.

At the height of apartheid, government did very little to support black artists and little was done to acknowledge their contribution to South African art. During the 1960's and 1970's artists were supported primarily by privately owned galleries and private collectors. Fernand Haenggi established The Haenggi Foundation Incorporated in 1978. The Foundation, an Incorporated Association not for gain, played a significant role in the development and promotion of black artists and in the dissemination and recording of information.

Born in France in 1934, Haenggi relocated to South Africa in 1954 and worked in the administrative fields in industry, financial services, investment and merchant banking. From 1961, the Haenggi family, through numerous ground-breaking initiatives, played an important role in art in Johannesburg. This was achieved firstly through Gallery 101, which Haenggi established with his mother, Fernande Marie-Louise Haenggi-Gruber, and later through Gallery 21.

The aim of The Haenggi Foundation Inc. was to “establish various types of Art Museums not restricted to Fine Arts and to promote and exhibit the work of (and generally to render assistance to) South African artists of all races and to establish Art Centres and Art Schools”. During 1981 the Pelmama Art, Dance and Music Workshop Trust was established with the objective to “build, establish, promote, encourage and support in

James Mphahlele, Dialoga part 11 (Blanketed on their mats), 1987, masonite print on paper, 31 x 105 cm.
every possible way Fine Arts, Dance, Drama and Music Workshops and Studios for black artists and art students and to assist in the management and running of such workshops and studios, including the setting up of a full diploma course of a standard not less than that required by the national authorities, the arranging of bursaries and post-diploma studies in fine arts, dance, drama and music and of visiting guest lecturers”. This trust eventually led to the establishment of the “Pelmama Academy”, registered as a Technical College in premises in Dobsonville, Soweto. In 1989, the Academy opened its doors to its first art students offering courses from non-formal enrichment courses to formal classes.

During 1982, with an initial donation from The Haenggi Foundation’s Land Purchase Fund, the Pelindaba Museum of African and Modern Art project was initiated by the Foundation. The purpose of the project was to acquire 17 hectares of land on which the already established PELMAMA Permanent Art Collection could be adequately housed. Regrettably, due to the lack of significant financial support particularly from abroad, the Pelindaba Museum of African and Modern Art (PELMAMA) Project never realized.

Having been dynamically involved in the South African art market since 1961, Haenggi, for personal reasons and changed political and financial attitudes, resolved to leave the country in 1993 to settle in his home country, Switzerland. The greater portion of the PELMAMA Permanent Art Collection was then donated to existing museums throughout South Africa, apart from a few works which were acquired directly or placed on long-term loan to such institutions. Between 1990 and 1993 Oliewenhuis Art Museum received a total of 74 works of art on temporary loan from The Haenggi Foundation Inc.

The foundation of any museum is its permanent collection and although the Museum continues to show a steady growth in its collection, definite gaps still exist within the collection of South African art. Although the Museum, unlike numerous other museums of its scale, is still in the position to expand on its collection from its own funding, certain factors within the South African art market inhibit the Museum from establishing a collection that acknowledges and celebrates the visual culture of South Africa. These include a dramatically strengthened South African market, competition from both private and corporate collectors and considerable international interest in South African art.

Since 1990, numerous cultural institutions in South Africa, including the Pretoria Art Museum, the IZIKO: South African National Gallery and the Johannesburg Art Gallery have committed themselves to the repatriation of artworks that were taken out of the country, in order to build collections which recognize the cultural heritage of South Africa. Oliewenhuis Art Museum would like to acknowledge the generosity of The Haenggi Foundation Inc. and the financial backing and cooperation of the Department of Arts and Culture. This very generous donation not only augments the Museum’s collection, but also strengthens the Museum’s commitment to redressing imbalances created by our past and building a collection which honours and acknowledges South Africa’s rich visual culture.

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http://www.pelmama.org/Johannesburg_artscape_general.htm

Oliewenhuis Art Museum is still a young institution and

Lucky Sibiya, Figure and animal (1973), silkscreen, 46 x 57,5 cm.
Die Biblioteek van die Nasionale Museum

’n Wonderlike bron van inligting

Engela Wessels

Die Nasionale Museum, gestig in 1877, was aanvanklik die versamel- en uitstalplek van “waardevolle” artikels wat hoofsaaklik deur die publiek geskenk is. In die vroegste notules van die Museum word onder andere die volgende vermeld: “Box of beetles and other insects, skin of a wild tiger, one head of a vlakte vark, stone arrowheads, immature skull of a monkey, a pair of Japanese slippers, one native assegai, 2 feet of a rhinoceros, tail of an elephant, sniff boxes made of quills of the vulture, a calf born with 2 heads.”

Vandag is die Museum ’n sentrum vir bewaring, navorsing en opvoeding op die breë terrein van die natuur- en geesteswetenskappe, asook die visuele kunste. Dit is een van die oudste erfenissentrums in Suider-Afrika en streef daarna om deur uitnemende navorsing, bewaring, opvoeding en uitstallings ons natuur- en kultuurerfenis aan alle mense bekend te stel. Die biblioteek vorm ’n integrale deel van die Museum, veral wat navorsing en opvoeding betref.

In 1900, 23 jaar na die stigting van die Museum, is daar vir die eerste keer in ’n notule van “boekery” melding gemaak en in 1914 word die eerste boeke aan die Museum geskenk. Dit is The uncivilized races of men in all countries of the world deur J. Mackenzie in twee volumes en gedruk in 1880. Terselfdertyd is die eerste tydskrifte ontvang, nl. Annals of the South African Museum, Annals of the Transvaal Museum en Records of the Albany Museum.

Dr. Van Hoepen word in 1922 direkteur en behartig vir baie bibliotekabaangeleenthede soos die aanwins van nuwe boeke, ruilooreenkomste en die ontvang van tydskrifte en landkaarte. Vanaf 1930 word die hulp van ’n tikster/klerk aangewend en sedert 1943 is dr. Hoffman (later direkteur) ook by die biblioteek betrokke. Die eerste bibliotekaris was dr. A. Gast wat in 1949 diens aanvaar het. Soos die versameling en dienste gegroei het, is meer personeel aangestel.

Die bibliotekaversameling huisves meer as 9 000 boeke waarvan ’n groot aantal baie oud is – sommige uit die 17de eeu. Die Africana (711 boeke) word in staalkaste in die kluis geberg.

Oor die geskiedenis van Afrika en suidelike Afrika is daar boeke oor die reise en ontdekkingstogte van Livingstone, Stanley, Bogaert en Baines; Franse en Britse Sendinggenootskappe en die geskiedenis van die Kaap die Goeie Hoop en die VOC. Ander onderwerpe sluit in die stryd om Afrikaans (Patriot, 1876), die Cape to Cairo Railways Project (vier lywige volumes met insiggewende inligting oor Afrika en die projek) en die geskiedenis van die Vrystaat, Anglo-Boereoorlog en van Bloemfontein.

Verder bevat die Africana ook atlasse en kaarte, boeke oor kosterums en kleredrag; Bybels (Ou- en Nuwe Testamente in Grieks, Hebreu en Latyn); geestelike lektuur deur Thomas Kempis en John Bunyan; vroegste juridiese werk en wetboeke en werke oor paleontologie (fossilbeskrywings en plate) en antropologie.

Alhoewel die meeste boeke wat die biblioteek vir navorsers aankaap baie akademies en tegnies is, is daar deur skenking en boeke wat vir opvoedkundige doeleindes aangekoop is, meer algemene literatuur, geskik vir skoolprojekte en ander studies, bekoms. Dit sluit ’n hele aantal ensiklopedieë in. Oliewenhuis-kunsmuseum beskik ook oor ’n baie goeie versameling kunsboeke en katalogi.

Personeel benut die faciliteite van die biblioteek.
Die biblioteek het 1 733 tydskriftitels (reekse) wat deur subskripsie en ruilooreenkomste verkry is en waarvan sommige baie oud is. Tydskrifte maak ongeveer 85% van die totale versameling uit. Daar is ook bykans 9 000 pamflette wat deur interbiblioteeklenings verkry is. Die biblioteekversameling sluit ook ’n aantal CD’s en geologiese kaarte in.

Die belangrikste funksies van die biblioteek is die volgende:

- Die bewaring van bestaande inligtingsbronne. Aangesien heelwat van die bronne baie oud is, is dit ’n prioriteit om dit ten beste te bewaar.
- Die versameling van alle beskikbare inligting benodig vir navorsingsprojekte wat deur die Museum ondernem word. Dit sluit in die aankoop van relevante boeke soos aangevra deur navorsers; subskripsie van nasionale en internasionale tydskrifte, asook interbiblioteeklenings van artikels uit vaktydskrifte soos benodig vir navorsing; koerantartikels; inhoudsopgawes van tydskrifte by ander sentra en skenkings.
- Instandhouding van ruilooreenkomste met 300 nasionale en internasionale inligtings- en navorsingsvennote. Die grootste aantal tydskrifte word hierdeur verkry.
- Aanwins van nuwe bronne soos alle boeke, tydskrifte en pamflette en die rekenarisering daarvan.
- Ontsluiting van inligting vir alle gebruikers. Inligtingsoektogte kan op die rekenaar gedoen word onder ’n verskeidenheid trefwoorde soos outeur, titel, ISBN, onderwerp, raknommer en dokumentnommer.
- Bemark die biblioteek as inligtingsentrum.

Die biblioteek is nie ’n openbare biblioteek nie. Slegs personeel mag bronne uitneem. Aangesien ons egter vir die gemeenskap tot diens wil wees, mag die publiek ons besoek en toegang tot ons bronne verkry. Fotostate kan teen ’n minimale koste gemaak word. Die biblioteek is baie gewild onder veral skoolkinders en studente, asook navorsers van buite.


**Library of the National Museum: a wonderful source of information.** Engela Wessels. The National Museum was founded in 1877 and the first librarian was appointed in 1949. Since then the collection has expanded rapidly and today the library houses more than 9 000 books, including Africana, 1 733 journal series (85% of the collection) and about 9 000 pamphlets (obtained through inter-library loans), as well as CDs and maps. Although the collection is primarily for use by staff for research and education, members of the public are welcome to use the resources, although no lending is allowed.

Wetenskaplikes by die tydskriffrak.
Republiek Oranje-Vrystaat het nooit eie munte gehad nie

Sudré Havenga

In die numismatiese versameling van die Nasionale Museum is daar ’n besondere munt wat met eerste blik die indruk skep dat die destydse republiek Oranje-Vrystaat (1854-1902), soos die Zuid-Afrikaansche Republiek (ZAR), oor ’n eie munstelsel beskik het. Die Vrystaatse wapen is lewensgroot op die rugkant van die munt aangebring tesame met die leuse GEDULD EN MOED.

Van die vroegste tye af het die mens artikels en items wat hy in oorskot gehad het, verruil vir artikels wat hy benodig het. Ruilhandel is met ’n wye verskeidenheid artikels, onder andere beeste, krale, sout, seep, velle en tabak, gedryf. Hierdie items kan dus as die eerste “geld” bestempel word. Geld word in die algemeen gedefinieer as enige artikel wat van een persoon na ’n ander oorhandig word as betaling vir gebruiksware of vir ’n diens gelever. Eenvoudig gestel, was dit vroeë jare enige artikel waaraan ’n groep mense ‘n waarde gekoppel het. Sout was vir baie lank so ’n handelsware. Selfs Romeinse soldate is met soutkoekies, bekend as selarium, vergoed. Vandaar dan ook die Engelse woord “salary” en die Afrikaanse woord “salaris”. In Frans-Sudan was ’n goeie slaaf spreekwoordelik nie sy gewig in “goud” word nie, maar wel in sout.

Betaalmiddels soos beeste, seep, tabak en krale is egter verganklik en bederfbaar. ’n Behoefte aan ’n gemeenskaplike rekeningheid of waardebepaler het ontstaan. ’n Algemeen aanneembare ruilmiddel waaraan ’n groep mense ’n waarde gekoppel het. Sout was vir baie lank so ’n handelsware. Selfs Romeinse soldate is met soutkoekies, bekend as selarium, vergoed. Vandaar dan ook die Engelse woord “salary” en die Afrikaanse woord “salaris”. In Frans-Sudan was ’n goeie slaaf spreekwoordelik nie sy gewig in “goud” word nie, maar wel in sout.

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Betaalmiddels soos beeste, seep, tabak en krale is egter verganklik en bederfbaar.

is as die intrinsieke waarde wat hulle verteenwoordig. Die waarde is bepaal deur die gewig en die metaal waaruit dit geslaan is, hetsy goud, silwer of koper. Hierdie munte is deur almal aanvaar en het oor die hele wêreld heen gesignaleer. Suid-Afrika se munsteskenis kan hoofsaaklik teruggevoer word na die Kaapkolonie en die ontwikkelinge wat daar plaasgevind het. Met die vestiging van die eerste nedersetting aan die Kaap in 1652, is ’n nasionale munstelsel nie as belangrik bestempel nie. Verder het die hedendaagse gebruik dat elke land oor sy eie munstukke beskik, nog nie bestaan nie. Weens die afwesigheid van ’n internasionale kredietstelsel het metaalgeld van een land dikwels vrylik in een ander land gesirkuleer. Soms is daar ’n plaslike kontra-stempel op die munte aangeteken. Hiermee saam is tariewe (lyste van die pryse waarteen die bepaalde munstukke in omloop aanvaar moes word) gepubliseer. Die Spaanse daalder en die Hollandse agt-real (dit was die amptelike geld van die Verenigde Oos-Indiese Kompanjie) is sulke voorbeelde en het vrylik in die Kaap gesirkuleer. Eersgenoemde en in besonder die agt-real was tesame met geld wat in daardie stadium in die Nederlandse in omloop was, die eerste waarmee die nedersettings aan die Kaap kennis gemaak het. Aangenes daar baie verkeer tussen die Kaap en die Ooste was, het heelwat Oosterse munte ook hulle weg na die Kaap gevind.

Britse geld het ook ’n belangrike rol in die ontwikkeling van geld in Suid-Afrika gespeel en kan teruggevoer word na die eerste (1795) en tweede (1806) Britse besettings van die Kaap. Die eerste peniie wat in die Suid-Afrikaanse konteks van belang was, is die sogenoemde Britse karwielpennie van 1697. Hierdie eerste karwielpennies het ’n tradisie van Britse sterlingsgeld in Suid-Afrika gevestig wat tesame met ponde (E) en sjielings (s) vir sowat 160 jaar sou duur. Na afloop van die tweede besetting, het die waarde van Nederlandse geld geleidelik afgeneem en is met verloop van tyd deur Britse sterlingsgeld vervang. Teen 1893 was Britse
muntgeld wettige betaalmiddels in die Kaapkolonie, Natal, Vrystaat en ook vrylik in die ZAR in omloop.

In die Vrystaat het die trekkers se kontant bestaan uit die Britse geld wat hulle uit die Kaapkolonie saamgebring het. Met Brittanje se anneksie van die gebied in 1848 is die stelsel gewettig en verder bestendig. Met die toetstandkoming van die Oranje-Vrystaat (OVS) in 1854 as republiek is die Britse monetêre stelsel behou, maar bitter mind geld was in omloop en handel was hoofsaklik tot ruilhandel beperk. Die Vrystaat het nooit oor sy eie muntstelsel beskik nie. Met uitsondering van OVS-goedvoors wat as kleingeld moes diens doen, was die Vrystaat op Britse en later ZAR-munte aangewese om in hul kleingeldbehoeftes te voorsien. Alhoewel die Vrystaatse regering nooit ‘n besluit in dié verband geneem het nie, is die idee vir ‘n eie muntstelsel tog per geleentheid ter tafel gebring. Reeds in 1860 is hierdie voorstel vir die eerste keer gemaak, maar die regering het egter verkieks om nog regeringsnote uit te gee. In 1870 sowel as in 1877 is hierdie saak weer onder die Volkstaad se aandag gebring. Daar is egter gevoel dat die republiek nog nie gereed was vir sy eie muntstelsel nie. So het die Duitse stempelmakersfirma in Berlyn, Otto, Nolte & Kie, selfs nog in 1887 kwotasies aan die Vrystaat voorgelê vir ’n voorgestelde muntreeks. Hierdie reeks sou uit ‘n kroon (5/-), ‘n halfkroon (2/6), ‘n vyfde kroon, (1/-), ‘n tiende kroon of sikspens, ‘n koperpennie, 1/4- en 1/2-pennie bestaan. Nadat ‘n aanvanklike brief aan die staatspresident onbeantwoord gebleef het, het Otto, Nolte & Kie voortgegaan en ses patroonmunte aan die Vrystaat gestuur.

Daar is nooit enige van hierdie munte gemunt nie en slegs enkele patroonmunte het behoue geblef. Vandag is slegs voorbeelde van die kroon en die penny bekend. Aangesien die reeks nooit gemunt is nie, is die enkele monstermunte wat nog bestaan vanselfsprekend gesogte en waardevolle numismatiese items.

Bronne

The Orange Free State republic never had its own coinage. Sudré Havenga. The republic of the Orange Free State (1854-1902) never had its own coinage. With the exception of OFS “good fors”, which were used to combat a shortage in coins, the Free State had to make use of British and ZAR coins. The idea of an own coinage was, however, raised on more than one occasion. A German firm by the name of Otto, Nolte & Co. submitted to the Free State government a quote and even went so far as to send six pattern coins to the government for approval. These coins were never approved and therefore never coined. Some pattern pieces can still be found today, for example a 1 Penny pattern coin from 1888 in the numismatic collection of the National Museum. These pattern pieces are unique and sought after by collectors.
The Secretarybird
majestic hunter of the plains

Louise Coetzee

The Secretarybird, strutting about on long legs and with long black plumes on the head, is one of those very distinctive birds that you do not have to think twice about to know what it is. They are large, measuring from 1.2 to 1.5 m when stretched out from the tip of the beak to the toes, with a wingspan of 1.2 to 2.1 m. These birds are light grey and black, with the thighs covered in neat black breeches.

It is generally accepted that the name “Secretarybird” refers to the resemblance of the plumes on the head of the bird to the quills which were used for writing in earlier times. However, it has also been suggested that the name is a French corruption of the Arabic word saqr-et-tair, meaning “hunter-bird”. The species was described by J.F. Miller in 1779 from a specimen collected in the Cape of Good Hope.

This unique bird is confined to Africa south of the Sahara, but excluding the forested equatorial region. It inhabits open grassland and brush-covered veld, avoiding true desert areas such as the Namib. While the modern Secretarybird is confined to Africa, fossil evidence suggests that close relatives once existed in the Middle East and southern Europe.

Secretarybirds are raptors, related to falcons and hawks. They have strong hooked bills and capture live prey. However, unlike other raptors, they have very long legs - in fact the Secretarybird has the longest legs of any raptor - and they must bend their legs in a crouch to feed or drink. Their legs are covered with thick scales for protection. Their feet are adapted for walking and they do not have strong claws like an eagle.

These long-legged hunters are usually seen in pairs as they walk steadily through the veld in search of prey. They will eat almost anything they can overpower, mainly rodents, insects and snakes. Insects form a large part of their diet and are merely pecked up, while larger prey is trampled. They are renowned snake killers, striking snakes accurately on the head with one foot, although they kill far fewer snakes than they are usually credited for. The eggs of ground nesting birds are also taken.

A pair of birds usually has its own territory of about 1.6 hectares. They roost in a nest or on low, thorny trees. These birds do not waste energy by hunting too early in the morning, but wait until about two hours after dawn, by which time prey should have come out into the veld. It is estimated that they walk between 20 and 30 km per day in search of food. Although Secretarybirds are terrestrial, they can soar like vultures and eagles and have been recorded at heights of 2 000 to 3 800 m.

Secretarybirds build enormous nests in the tops of flat-crowned thorny trees. These large (1 to 1.5 m wide) flat nests are made of sticks and lined with grass. The nest is used year after year and the birds continually add to it. Occasionally the nest gets too big and heavy for the tree, causing branches, or even the whole tree, to break.

Two to three eggs are laid, but usually only two chicks survive. The “Cain-and-Abel” syndrome, in which the first chick to hatch kills the second (as in the case of eagles), does not apply here. It is thought that the third chick, if present, merely dies of hunger. Both parents are involved in incubation, which lasts for about 45 days. The chicks develop relatively slowly and can stand up only at about six weeks. They leave the nest after 79 to 86 days but are dependent on their parents for a further 32 to 35 days.

The Secretarybird, although not our national bird, forms a prominent feature in the coat of arms of South Africa and is also the national emblem of Sudan. The Sudanese
coat of arms, adopted in 1969, shows a Secretarybird bearing a shield from the time of Muhammad ibn Abdalla (1844 – 1885).

In the South African coat of arms, unveiled on 27 April 2000, the Secretarybird forms the main part of the upper oval and is placed above the protea, with the flower forming the chest of the bird. The outstretched wings indicate the growth of the South African nation and simultaneously symbolise protection. The bird is depicted in gold, which symbolises its association with the sun and the highest power.

A magnificent specimen of a Secretarybird stands in the foyer of the National Museum, where its relevance in the South African coat of arms is also explained. The bird was found as a roadkill by Mr and Mrs Chris Gerber of Bloemfontein, who had it mounted and donated it to the National Museum.

Reference


http://en.wikipedia.org/wiki/Secretary_Bird


University of the Free State and the National Museum sign memorandum of agreement

A memorandum of agreement was signed between the University of the Free State (UFS) and the National Museum. In the agreement the two institutions give each other access to the education and research facilities of the other in the natural and human sciences. Although informal co-operation agreements have existed between the UFS and the National Museum for a while, this is the first time that a formal agreement has been signed.

At the signing of the agreement were from the left: Mr Rick Nuttall (Director of the National Museum), Prof. Magda Fourie (Vice-Rector: Academic Planning at the UFS), Ms Kelebone Mokuena (Council Member of the National Museum) and Rev. Kiepie Jaftha (Chief Director: Community Service at the UFS and National Museum Council Member).

Archaeology Contracts Office established

The National Heritage Resources Act (no. 25 of 1999), the National Environmental Management Act (no. 107 of 1998) and the Mineral and Petroleum Resources Development Act (no. 28 of 2002) require that certain developments and building projects be preceded by an Environmental Impact Assessment. The Archaeology Department has been involved in an increasing number of these Assessments over the past five years, and has now opened a Contracts Office, dedicated solely to this aspect. Karen van Ryneveld, who holds an MSc Degree in Archaeology from Wits and is an accredited Cultural Resources Management (CRM) practitioner, heads up the Office. Any enquiries can be directed to Karen at the Museum or on karen@nasmus.co.za.
Vrouedag by die Nasionale Museum

Vrouedag is hierdie jaar op ‘n baie spesiale wyse by die Nasionale Museum gevier. Graad 9-dogters, wat aanstonds vakkeuses vir matriek moet maak, is op 10 Augustus na die Museum genooi waar hulle toegespreek is deur ‘n vroulike wetenskaplike om hulle in lig oor die wonderwêreld van die wetenskap en oor beroepsmoontlikhede in wetenskaplike rigtings. Daarna is hulle deur die Museum se natuurwetenskaplike uitstallings geneem waar die dameswetenskaplikes van die Museum hulle oor die werk van museumwetenskaplikes ingelig het.

Die geleentheid is moontlik gemaak deur befon ding van die South African Agency for Science and Technology Advancement (SAASTA). Busvervoer en verversings vir die nagenoeg 660 skooldogters is voorsien.

Mev. Riana Scholtz, entomoloog van die Nasionale Museum, verduidelik wat ‘n loopbaan as museumwetenskaplike behels.

Onica Phayane (links), projekleier by SAASTA, dr. Jennifer Botha (middel), paleontoloog van die Nasionale Museum en dr. Eldalize Kruger, verbonde aan die Departement Geologie van die Universiteit van die Vrystaat, tydens die Vrouedag-vieringe by die Nasionale Museum.

National Science Week 2006

National Science Week is an annual country-wide celebration of Science, led by the Department of Science and Technology, and managed by the South African Agency for Science and Technology Advancement (SAASTA). This year, National Science Week for the Bloemfontein area was co-ordinated by Boyden Science Centre. It was a collaborative project of the following institutions: National Museum, Bloemfontein; University of the Free State; Fire Station Museum and Free State National Botanical Gardens.

Mr Tebogo Mohlakane was the project co-ordinator of this event at the Museum.

It was an exciting week of Science, both indoors and outdoors. Various activities were presented from 15 to 20 May 2006, reaching 616 learners overall. A public lecture was also held on the topic: “Plant-based Health Management”, presented by Mr Florian Kroll from Open Synergy in Johannesburg.

Saturday, 20 May, was Science Awareness Day at the Museum. A total of 114 Grade 11 and 12 learners participated. Three Museum Scientists (Ms Shiona Moodley, Ms Wanda Kaiser and Mr Leon Lotz) gave presentations on Rock Art, Mammalogy and Arachnology, respectively. Ms Sane Mqati from the National Energy Regulator of South Africa (NERSA), in Pretoria, gave a presentation about the core functions as well as career opportunities in NERSA.

Present at the Science Awareness Day were (left to right) Ms Sane Mqati (NERSA), Ms Wanda Kaiser (Mammalogy), Ms Shiona Moodley (Rock Art), Mr Tebogo Mohlakane (Project co-ordinator), Mr Leon Lotz (Arachnology) and Dr Jennifer Botha (Palaeontology).
The National Museum receives a valuable donation from the Natural History Museum in Paris

A rare and valuable collection of research materials on the evolution of the family Equidae (horses and zebras) was recently donated by Dr Vera Eisenmann of the Laboratoire de Paléontologie, Muséum National d’Histoire Naturelle, Paris, to the Florisbad Quaternary Research Department, as a result of her collaboration with Dr James Brink, head of this department. Dr Eisenmann, who recently retired as researcher at the Muséum National d’Histoire Naturelle, is an authority on the evolution and fossil record of the Equidae. She has published extensively on both hipparions (primitive three-toed horses) and on the origin of the living genus Equus, which includes all horses, asses, Asiatic half-asses and zebras. During her research career she was based in France and studied all the major collections of fossil Equidae in Europe, but also travelled to East Africa, Southern Africa, Asia and North America. North America is the place of origin of the earliest ancestors of the Equidae and of the modern genus and acted as the source area from where Equidae dispersed periodically into Asia, Europe and Africa. During her visits to South Africa Dr Eisenmann used the Florisbad Quaternary Research Station as her research base, where she also presented workshops to South African researchers and students. The donated research collection includes 80 kg of notes, photographs, measurements and papers on equid evolution and will be curated as part of the official research collections of the Florisbad Quaternary Research Department.

Vera Eisenmann and James Brink at the National Accelerator Centre, near Cape Town. – Note the ‘Cape quagga’ in the background, which is in reality a plains zebra forming part of the experiment to ‘re-breed’ the extinct Cape quagga.

Museum op DVD bekendgestel

Eerste Nasionale Bank (FNB) het ’n ruim bedrag aan die Nasionale Museum geskenk vir die produksie van ’n DVD waarin die bedrywighede van die Museum uitgebeeld word. Die doel daarvan is om dit as bemarkingsmateriaal sowel as vir opvoedkundige aanbiedings te gebruik. Mev. Engela Wessels van die Museum het die borgskap met FNB beding. Mnr. Sieg Maier, provinsiale bestuurder van FNB in die Vrystaat, het die transaksie beklonk. Mnr. Christo Venter van die Museum is behulpsaam met die beplanning en uitvoering van die opnames. Die produksie behoort teen die einde van die jaar voltooi te wees.

Mnr. Sieg Maier, provinsiale bestuurder van FNB in die Vrystaat (links) en mnr. Rick Nuttall, direkteur van die Nasionale Museum.
The oldest person to visit the Museum!!!

On 13 July 2006 a group of elderly citizens from the Boikhuco Old Age Home in Mangaung paid a visit to the Museum. Among them was Mrs Maria Kgobe (seated right) who is 104 years old. They were guided through the exhibitions by Mr Willam Thamahane (standing).

The Florisbad Skull gets its name back

When Prof T.F. Dreyer described the Florisbad skull after its discovery in 1932, he named it Homo helmei after Captain R. Egerton-Helme who had provided the funding for Dreyer’s excavations (see Culna no. 46, 1994). Subsequently the fossil was known as a representative of Archaic Homo sapiens. However, there has been a move to reintroduce its original name by, among others, Cambridge scientist Robert Foley, and the new designation has appeared in several recent publications. The name, Homo helmei, is intended to distinguish the African fossils of the immediate precursors of fully anatomically modern humans from their European counterparts, Homo heidelbergensis.
The new Archaeology hall and the 1969 moon landing

The National Museum received funding from the National Lotteries Board for the reconstruction of the Archaeology Hall. The Hall has been completely redesigned, and includes a walk-through diorama of a prehistoric butchery scene, followed by a recreation of the excavation of its remains 125 000 years later. A first for the Museum will be the inclusion of touch-screen computers, which will provide in-depth information about various aspects of the themes presented in the displays.

The previous Archaeological displays were constructed in 1969. On 16 July that year, Neil Armstrong first walked on the moon, an event which one of the staff members working on the Hall recorded for posterity. This record of the momentous occasion was uncovered during the dismantling of one of the old showcases. More than thirty years later we can still feel the excitement of the event. Who says that departments such as Design and Workshop do not also take responsibility for recording our past!

Openingspreker by werkswinkel

Tydens die National Workshop on the holistic management of human-wildlife conflict in South Africa wat van 10 tot 13 April 2006 by die Ganzekraal-konferensiesentrum in die Wes-Kaap gehou is, het dr. Nico Avenant, hoof van die Departement Soogdierkunde, as een van die openingsprekers opgetree. Die titel van sy voordrag was The Canis-Caracal Programme: a holistic approach.

Archaeology Department: Collaborative research project

The Archaeology Department is collaborating with Dr Lucinda Backwell from the Bernard Price Institute of Palaeontology at Wits University on a multi-disciplinary project at a Middle Stone Age site north of Naboomspruit. The project is in its second year and is already producing very interesting material. A preliminary publication is expected next year. The project is National Research Foundation funded.

Besoek aan Verenigde State van Amerika

Dr. Lizel Hugo het van 1 tot 24 Julie 2006 die Ohio State University in Columbus, VSA, besoek vir die 56ste jaarlikse Akarologie-somerskool. Navorsers van regoor die wêreld woon die kursus in klassifikasie, biologie en ekologie van myte by. Lizel het mense van onder meer Australië, Thailand, Duitsland, Amerika en Denemarke ontmoet.

Besoekers aan die Departement Ornitologie

Dr. Thomas Stidham en Juliet Brophy van die Fakulteit Ekologie en Evolusionêre Biologie, Texas Universiteit, VSA, het die Departement Ornitologie en die Kwaternêre Navorsingstasie op Florisbad van 26 tot 29 Junie 2006 besoek. Hulle het die fossiele van voëls in die Florisbad Kwaternêre-versameling kom bestudeer en met die skelette van onder andere uile en flaminke in die Ornitologie-skeletversameling vergelyk. Hier is hulle saam met Dawie de Swardt (middel), hoof van die Departement Ornitologie.
Canadian palaeontologist visits the Museum

Dr Sean Modesto is a vertebrate palaeontologist from Cape Breton University, Nova Scotia, Canada and often visits South Africa to work on Karoo fossils. He is currently collaborating on several projects with Dr Jennifer Botha at the National Museum. Projects involve examining vertebrate diversity after the end-Permain extinction event, about 251 million years ago.

Samewerking met nasionale instansie

Dr. Elizabeth Retief van die South African National Biodiversity Institute (SANBI) het gedurende Mei die Departement Plantkunde besoek. Die twee instansies werk gesamentlik aan 'n plantspesielys van die Vrystaat. Hier is dr. Retief (links) saam met mev. Helga Seaman, versamelingsbestuurder, in die herbarium van die Nasionale Museum.

Kongres in Viëtnam bygewoon

Dr. Nico Avenant, hoof van die Departement Soogdierkunde, was deel van die reëlingskomitee vir die Third International Conference on Rodent Biology and Management wat van 28 Augustus tot 1 September 2006 in Hanoi, Vietnam, gehou is. Nico het twee praatjies en twee plakkate aangebied. Hy was ook voorsitter van een van die simposiums, Rodents as indicators of habitat integrity.
Acarology Conference in Amsterdam

Louise Coetzee, Acarologist from the National Museum, attended the 12th International Conference of Acarology (study of mites and ticks) in Amsterdam, Netherlands, from 21 to 26 August, where she presented a poster on the taxonomy of *Afroleius simplex*, a type of soil mite. There were 386 participants from all over the world at the conference.

From left: Prof. Gerd Weigmann (Freie Universität, Berlin, Germany), Dr Ritva Penttinen (University of Turku, Finland), Dr Piotr Skubala (University of Silesia, Katowice, Poland) and Louise Coetzee.

Besoek aan Spanje

Lloyd Rossouw, ’n paleontoloog verbonde aan die Departement Florisbad Kwaternêre Navorsing van die Nasionale Museum, het vanaf 10 tot 20 September 2006 Spanje besoek om ’n bydrae te lewer by die 6th International Meeting on Phytolith Research wat in Barcelona aangebied is. Vyf-en-veertig navorsers van verskeie lande het deelgeneem aan die kongres wat uitsluitlik gemik is op die bevordering van navorsing oor plantsilika in paleontologiese en argeologiese studies. Voorleggings het gewissel van vordering gemaak t.o.v. plantsilika-nomenklatuur, taksonomie en die toepassing daarvan in die studie van vroeë plantdomestikasie en paleo-oomgewingsrekonstruksie. Lloyd se bydrae het gehandel oor die waardevolle bydrae wat plantsilika van plaaslike grasspesies tot die interpretering van paleo-ekologiese toestande in Suid-Afrika kan lewer.

Lloyd Rossouw (heel regs) saam met kollegas gedurende ’n dagbesoek aan Tarragona, ’n antieke seestad ongeveer 100 km wes van Barcelona. Van links Makund Kajale (Indië); Ofir Katz (Israël); Alan Sangster (Kanada); Margarita Osterrieth (Argentinië); Dan Cabanes (Spanje); Freea Itzstein-Davey (Ierland) en Chad Yost (VSA).
“Preservation on a shoe-string”

Ina Marais of the National Museum library (standing at the back), attended a conference called “Preservation on a shoe-string” presented by SAPCON (South African Paper Conservation) on the preservation of paper, at the William Humphreys Art Gallery, Kimberley on 26 and 27 July 2006. A pre-conference workshop on book binding for conservation and journal making was held on 25 July. Anybody interested in book restoration or who needs help with the restoration of books is welcome to contact Ina at the Museum (051-447 9609).

Visitors at the Archaeology Department

Professor Judy Sealy (left) and her Honours student, Katharine Kyriacou, from the Department of Archaeology at the University of Cape Town, visited the Archaeology Department from 13 to 20 July. They worked on the Robberg Cave material excavated during the 1960s. Katharine will describe the material for her Honours research project, which will serve as an important record for this collection.

Textile conservation workshop held at the National Museum

From 22 to 25 May 2006 Daleen Louw of Conservation at Shop, Cape Town, presented a four-day workshop on textile conservation at the National Museum on behalf of the SAMA Transformation Training Program. The program was funded by the Department of Arts and Culture. The workshop focused on aspects such as the stabilization and repair of textiles, cleaning methods and the displaying and storing of textiles. Delegates from several museums, including four members of the National Museum staff, attended the workshop.
Besoekers aan die Departement Soogdierkunde

Dr. A. Monadjem, (foto) Universiteit van Swaziland, het onlangs die versameling van die Department Soogdierkunde benut om data in te samel vir 'n nuwe boek, *The Bats of Southern Africa*.

Ander navorsers wat die versameling benut het, sluit in dr. D.J. de Ruiter, University of Texas A&M (navorsing oor kleiner roofdiere) en dr. Rod Baxter, Universiteit van Fort Hare (navorsing oor skeerbekmuise).

Konfy vir Freshford

Mev. Annatjie van der Merwe van Philipstown het konfy gekook vir die uitstalling in Freshford-huismuseum se spens. Hier hou sy 'n bottel konfy van heel sitrusvrugte, lemoene, suurlemoene en sitroene vas. Sy het ook ryp vyekonfy en kerrie-kool met wortels ingelê.

Long Service Awards

Staff at the National Museum are awarded for long service. Candidates receive a certificate and a monetary acknowledgement after their first 10 years of service and then every five years thereafter.

Back (left to right): Ilse de Swardt (Administration, 15 years), Daniël Mphafi (Oliewenhuis Art Museum, 20 years). Middle: Wilna Otto (Oliewenhuis Art Museum, 15 years), Maxie Myburgh (Restaurant, 10 years), Louise Coetzee (Acarology, 25 years), Rick Nuttall (Director, 15 years). Front: Maku Mocumi (Cleaning services, 25 years), Finas Xintolo (Cleaning services, 25 years), Florrie Makhabe (Cleaning services, 25 years), Sudré Havenga (History, 10 years). Inset: Abel Tadi (Printing, 20 years).
Dr. Dirk van der Bank (Spesialis Wetenskaplike, Geskiedenis) het vanjaar afgetree na 24 jaar diens as ’n historikus van die Nasionale Museum en na Hartenbos verhuis. As ywerige navorser beslaan sy nalatenskap by die Museum ’n dertigtal artikels in geakkrediteerde journale. Hy is die samesteller van die pragboek *Slagvelde, gedenktekens en grafte van die Anglo-Boereoorlog en omgewing*.

Mnr. Faan Basson (Hoofvoorraadbeampte) het vir 20 jaar die veeleisende taak gehad om na die voorraad, aankope en voertuie van die Museum om te sien. Hy en sy vrou het hulle by die kinders in Swellendam gevestig.

Mev. Margaret Swart (Departementshoof, Administrasie) het vir 18 jaar by die Museum gewerk. Sy het as administratiewe klerk begin en het gevorder tot departementshoof. Onder haar nougesette leiding is verskeie elektroniese stelsels geïmplimenteer.

Mev. Sarah Tsese (Algemene Assistent) was vir 25 jaar verbonde aan die Museum. Sy was in beheer van die kombuis. Mme Sarah was ’n staatmaker wat elkeen se tee- en koffiesmaak geken het.
New appointments 2006 Nuwe aanstellings

Miss Komi Nkhasi
Assistant Museum Scientist
Archaeology

Dr. Lizel Hugo
Museumwetenskaplike
Akarologie

Dr Daryl Codron
Post Doctoral Research Fellow
Florisbad Quaternary Research

Miss Candice Thompson
Trainee Chef
Café Museum

Miss Sharon Ledibane
Trainee Preparator
Palaeontology

Mr Nthaopa Ntheri
Preparator
Palaeontology

Mr Sam Stuurman
Trainee Preparator
Palaeontology

Mrs Eunice Mompati
General Assistant
Oliewenhuis Art Museum

Mrs Eunice Mompati
General Assistant
Oliewenhuis Art Museum

Mnr. George Hugo
Uitstalbeampte
Oliewenhuis-kunsmuseum