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ARTEFACTS

Reports covering the period July 2009 to August 2010

A change in production procedure

Artefacts is the newsletter of the Trans-Vaal Branch of ArchSoc. Its aim is to be a record of the fascinating information provided at the branch's evening lectures, the Annual School and during outings. *Artefacts* has been produced in one form or another since the start of the 1970s, generally appearing twice a year. Members of the Trans-Vaal Branch receive *Artefacts* as part of their membership, but the newsletter is also available to members of other branches at a small annual Trans-Vaal Branch 'country membership' fee.

The reports appearing in *Artefacts* are normally written by members of our hard-working branch committee, although at times we also employ the much appreciated assistance of non-committee members to reduce the workload. Because we are a very active branch, every year some 10 evening and seven Annual School lectures, and eight or nine outings by fascinating speakers and outing leaders need to be written up.

The editor of the newsletter is reliant on contributors to supply their reports in time for *Artefacts* to appear twice a year after December and June. With the pressures of modern life, some committee members (and even the editor) have found it increasingly difficult to meet their deadlines, and this has delayed production. The material for the July to December 2009 period contained in this issue should already have been in your hands in August 2010 as Volume 36(2), 2009. Some reports now appear so late that they have almost lost their interest.

To address this difficulty, a decision has been taken not to delay production because of outstanding reports. Such reports will from now on appear in later issues, as and when they become available. As a result, reports will no longer appear neatly in date order.

An appeal for volunteer reporters

If you would like to make your services available to the branch to write up reports, your committee would be very grateful. As the editor of *Artefacts* I would be delighted to hear from you.

Reinoud Boers

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EVENING LECTURES

The world's oldest art tradition: 80 000 years of SA rock art history

(9 July 2009)

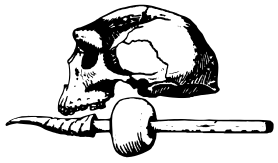
Professor Benjamin Smith, director, Rock Art Research Institute, University of the Witwatersrand

Prof. Ben Smith's exploration took us very far back to the earliest beginnings of art until recent perspectives on older traditions of art expression. We journeyed on some familiar pathways and ventured along some new roads.

In an exploration of the origins of art and the essence of image-making, Prof. Smith questioned why Neanderthals, who shared the European landscape with *Homo sapiens* 25 000 years ago, had no tradition of decoration or art. In trying to answer this question, he pointed out that Neanderthals probably lived in the ever-present and had little awareness of the past that reflected limited consciousness. They did not have the ability to plan carefully, to provide for the future or to stash food for possible droughts. He referred to Prof. Lewis-Williams' analogy of a person walking with a flashlight having limited perception of the surroundings beyond that which was visible in the light beam. Neanderthals did not bury their dead and did not have religion, neither were they capable of symbolic and analogical thinking, or spiritual imagination. To imagine a few lines on the rock face could, for example, represent the image of an animal was beyond their comprehension.

Modern humans had developed in Africa at least 200 000 years ago. Prof. Smith pointed to changes in our perception of evolving humans as a result of finds within the last decade. The basic structure of our brains had not changed since at least 250 000 years ago, yet it was only much more recently that *H. sapiens* started thinking symbolically. It was also important to keep in mind that although the first successful exit out of Africa dates to 90 000 years ago, we all came from people who left about 70 000 years ago. Concerning the search for our beginnings, he referred to the research of Chris Henshilwood at Blombos, in particular his discovery in 2000 of a 77 000-year-old piece of ochre decorated with a sophisticated design. The scratchings were not just functional, but created an intentionally patterned design. This indication of symbolic thought at Blombos occurred long before the oldest European decorations found at Chauvet Cave dating back to 34 000 years ago.

It was difficult to say whether religion existed just because a few scratches. Yet this object was a very small and personal thing, it was polished by wear and was probably kept on the person. Significantly, at Blombos, Chris and his team also discovered harpoons, which indicated that the



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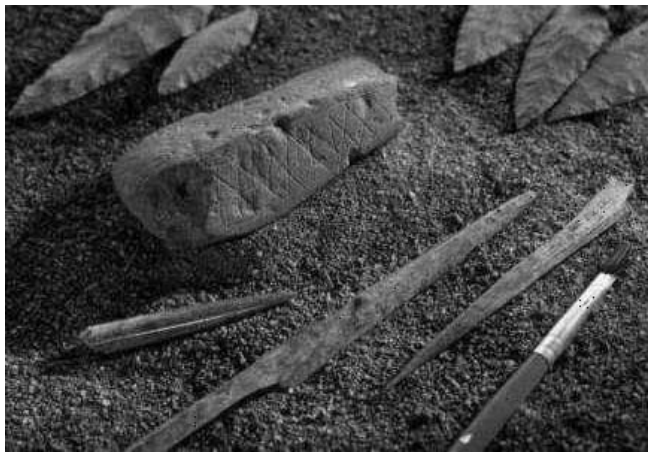


Engraved ochre, bone tools and bifacial points from Blombos Cave

people had the ability to plan a sequence of actions. They also used awls and therefore probably wore clothing. Many pierced shells were discovered in clutches, their perforations probably produced with the awls, while rubbing marks indicated that they had been strung. They displayed signs of wear and were thus worn as jewellery. What this reflected was a more sophisticated society, possibly with some degree of social stratification.

What happened 70 000 years ago that made this happen? John Parkington's view was that the brain had started to work better at this time. He had found carved ostrich eggshell with designs dating from 65 000 to 70 000 years ago.

Wendt's research in the 1980s from Namibia had yielded decorated objects 60 000 years old. At Tsodilo Hills in Botswana Sheilah Coulsen excavated a Middle Stone Age deposit at Rhino Cave. This is a deep shelter originally excavated by Alex Campbell and Robbins. Coulsen excavated below an extensively worked rock face that was covered in strange circular and elongated grind marks. Her excavation yielded pieces of rock that had been used as tools. Kathy Kuman's meticulous research had uncovered similar tools dating from 70 000 to 80 000 years ago at a site she had excavated for her PhD 100 km from Tsodilo, which confirmed that there had been a distinct tradition of tool manufacture at the time. The Coulsen tools were made of coloured stone that had been collected 150 km away. The stone tools had been manufactured elsewhere and been brought to the site. Strangely, they were destroyed at the site, being smashed and burnt until they exploded. Was this perhaps some form of gift or offering to the rock? Was it a ritual of some kind, did they believe that something about this rock could help them, and did this imply some kind of religion or form of belief dating to 70 000 years ago? It was likely that the origin of art, the origin of ritual and the origin of religion dated back to this time, Prof. Smith said.

The oldest examples of figurative art had been discovered at the Apollo 11 shelter on the Orange River. The loose stones that were used as painting surfaces were probably also broken on purpose. The rock that was used was not from the rock face, but from a few meters away and the breaking of the stones could also have been part of a kind of offering, similar to discoveries by the Thackerays at Wonderwerk Cave in the Northern Cape. Burials were also considered in terms of spiritual development since burying indicated a significant act that implied a belief in the afterlife, and illustrated religious belief. Prof. Smith referred to David Pearce's work on burials, grave goods and burial stones, and contemplated art, social differentiation and the time art had originated. How did this link with today's rock painting shelters?

South African rock art research was hampered by a lack of dating. Most of our art was quite recent, probably from within the last 1 000 years, while a lot of it was only a few decades old. During the 1960s there was renewed interest in ethnology, and it was the work of Vinnicombe, Lewis-Williams and Harold Pager that changed the focus towards symbolism and mythical/magical elements. It was inevitable that researchers would look back at, for example, the /Xam ethnology of around the 1860s and the contemporary accounts of Orpen. Lewis-Williams, referring to Biesele, found that certain eland stories were still being told in the Kalahari nearly a hundred years later.

Dance, Ben said, was an essential element in preparation to travel up to god's house in the sky to fetch power. Shamans describe how they saw little white dots along the red rope along which they climbed up to the sky. These were also the threads that linked people. When bees swarmed, they danced because this was a powerful time. 'Dying' was a metaphor for going into a trance state. People died and so did animals, as was, for example, illustrated at Game Pass shelter, where the shaman died like the eland, both being depicted with crossed legs. The man was becoming an eland as he touched it.

Some symbols had changed, but the ethnography gave us the portal to these. Where did it finally end? The last person to have known a San artist was 'M', who was of San descent. Her father was Lindiso, who, during the 1930s, went to the sites and put his hands on the paintings to draw power from them. He was using the paintings in everyday life as part of a healing ritual. Ben Smith concluded that we in South Africa had the story. It was here that art began and provided the longest continuous art tradition in the world.

Report by Anna Steyn

Digging the slave trade: the archaeology of raiders, refugees and resistance in West Africa (30 July 2009)

Dr Natalie Swanepoel, Senior Lecturer in Anthropology, Unisa

Dr Natalie Swanepoel commenced her lecture by recounting the history of the slave trade. There was an economic triangle across the Atlantic that involved Britain exporting manufactured goods to West Africa in exchange for slaves. The slaves were then shipped to North and South America and the West Indies. The ships returned to Europe with cargoes of sugar, cotton, molasses and tobacco. This trade pattern continued until 1833, when slavery was abolished by Britain. It is estimated that in the region of 10 million enslaved people were transported across the Atlantic. However, when the trans-Atlantic slave trade came to an end, palm-oil plantations were started in West Africa, which employed slaves, thus negating the effects of the abolition of slave trading. In addition, the slave trade north across the Sahara to the Muslim world and Spain continued until the 20th century. The northern tribes of Africa, including the Isala people and other tribes, were heavily raided.

Information about slave movements was obtained from documentary and pictorial sources, some aerial photographs and interviews with freed slaves after the end of the American Civil War. Archaeology had also played an important role in establishing the history of the slave trade. Slaves lived in separate quarters, which were indicated on maps, particularly in the America's. In South Africa there were slave lodges in Cape Town and on the farm Vergelegen. Blue trade beads, metal bangles and rings, carnelian beads, clay tobacco pipes, etc., which would have originated in the Gold Coast, had been found at sites in the America's. However, blue trade beads were not necessarily of West African origin, as they were found all over the world, according to Dr Swanepoel.

Castles were built along the Ghanaian coast by the Dutch and Portuguese, amongst other

European nations, between 1482 and 1786 to house slaves prior to shipment. Many of these sites had been preserved and Afro-Americans visited them as a form of pilgrimage, to find their roots and learn about their African heritage.

Dr Swanepoel decided to dig at Gwellu in the interior of Ghana, which is well-known for its 4 m high defensive wall built in the 1880s to protect the town from the slave raiders. This was well after the trans-Atlantic slave trade had come to an end. She found it difficult to know where to begin to dig and decided on a series of test pits near the brick-making pits. She found it comfortable to excavate in an inhabited village as she was 'watched' all the time. No one could understand why she wanted to retrieve broken pots. They offered new ones instead! The townsfolk were extremely friendly and hospitable as she spent many months a year in Gwellu, there being so much material to excavate. The town was very keen to promote tourism, had craft projects and had developed historical tours.

Report by Noni Vardy

Places of power, perceptible and imperceptible rock 'art'

(10 September 2009)

Professor Mike de Jongh, anthropologist, Unisa

It was a dark night in Tsumkwe in Namibia. He saw the flames of their fire and then he saw women sitting in a circle, clapping their hands and singing. The men were nearest to the fire. They shuffled along, one behind the other, to the rhythmic beat. They were starting a healing dance for a young girl who was ill. Prof. Mike de Jongh, who was working with the Kung Bushmen near where the SA Defence Force was based, was preoccupied. He had received a message to say that his father had passed away a great distance from there. In his sadness, he spent the night on the edge of the Bushmen ritual and recorded the incident.

Many years later, standing on a kopje near Colesberg, Mike came across three rocks on which indentations had been made. The marks appeared white and had broken through the age old patina. These rocks had been used as gongs in times gone by. The rocks had somewhat contrived tonal qualities. He came across further groups of rocks in the Karoo at places that appeared to be of significance. A circle had been cleared around the rocks where people had trodden the earth and possibly conducted a trance dance.

Mike had been working with the Karretjie people who, like gypsies of the Karoo, roamed the countryside with all their possessions laden on carts drawn by donkeys in search of seasonal work as sheep shearers. Times were now hard as such work was scarce as farmers no longer went in for sheep farming. The Karretjie people did not seem to be aware of the rock gongs, or of their use by their ancestors, for they were descendants of the /Xam Bushmen, a fact confirmed by the genetic research of Dr Himla Soodyal of the SA Institute for Medical Research.

At the time, Prof. de Jongh had been reading *The Songlines* by Bruce Chatwin, which is the story of the aboriginal people of Australia. Aboriginals laid great store in laying claim to natural elements like rocks and hills in the landscape. They captured these in song as the places of their ancestors. Standing on a kopje in the Karoo, he saw the privilege of working with such people and, by analogy, realised their worth.

He started asking around and found innumerable rock gongs. One farmer called them 'ping-pong klip'. Reading up on gongs, he realised they exist all over world and that some were over 6 000 years old. He had visited dolerite rocks, especially near Van Wyksvlei, where the gongs had a close association with wonderful rock engravings. Some at Nelspoort, north of Beaufort West, and at Bushman's Rock near Hanover would emit a wonderful sound. The rocks that were chosen as rock gongs were not arbitrary. He showed photos of rock gongs and played for us the sounds and tonal variations they made when struck.

A literary programme had been started among the itinerant Karretjie people. In the process, they would share with him their life crises and open emotional windows. But among them he found only one man who could still speak the language of his ancestors. The Karretjie people had lost their culture.

Report by Anita Arnott

Nomansland (8 October 2009)

Dr Geoff Blundell, Curator, Origins Centre, University of the Witwatersrand

Dr Geoff Blundell started off with a flourish by announcing that the cave paintings in Nomansland were virtually the best in the world, particularly in view of the fact that one could trace the actual individuals who had painted them and the language that those painters had spoken. It was a unique situation and the claim had been confirmed by various sources. It made the celebrated caves of France look quite shabby!

Nomansland is a part of South Africa that is tucked into a crook of the southern Drakensberg on the eastern side. It occupies an area between the old Cape and Natal colonies and is surrounded by what has been called at different times East Griqualand, Transkei and the north-eastern Cape. The area had not fallen under the control of any Xhosa people, nor any other established chiefdoms in south-eastern South Africa and, because they did not know for certain who lived there, it had been regarded by colonial powers as No-Mans-Land. This partly accounted for the name changes at different times. The remote mountainous area had, in fact, been occupied by several San groups who made what are, very likely, the last San rock paintings ever produced in southern Africa.

Nomansland, the last home of the San painters in the southern Drakensberg
(The Eland's People. Mitchell, P and Smith, B. 2009)

The area is exceptionally beautiful and constitutes the most significant watershed in that part of South Africa. In winter it gets snow, and temperatures have been known to drop as low as minus 14 C° and lower. The coldest weather station in South Africa is the Buffelsfontein farm near Molteno in the Eastern Cape and not Sutherland as is popularly believed. The Drakensberg basically consists of sandstone foothills with a basalt escarpment. The paintings are found almost entirely in the sandstone shelters. The area is a lot more accessible now than it used to be, but its remoteness is probably the reason for the San people and their paintings having survived there for so long.

What makes Nomansland unique? Historical documents from three important sources have indicated that the region's San groups were related to each other and that they knew the people who made the art. Henry Francis Fynn, a British agent who spoke Zulu and Xhosa fluently, was sent from Natal to Nomansland for a variety of reasons, among them to establish if there was land available for purchase and to find out who was stealing livestock from the Mooi River area. He interviewed several people, including San and the Bhaca people, who were known to shelter the San. Subsequently, Walter Harding was sent to Nomansland. He learned of three groups of San in the area. One was headed by Nqabayo and another by Mdwebo. They were opposed to the Thola San group under Biligwana, who lived over the escarpment. They had feuded since 1832 and blamed each other for the stock theft from Mooi River, although it was clear that they were all involved. The three groups spoke a language called !ga!ne – the last San language spoken in South Africa – even as late as the 1930s. One hundred and forty words of that language were recorded in the 1930s by the Reverend Anderson, who went up a pass called Bushman Cuttings.

A second source of information was from Sir Walter Stanford, who visited the area from the 1870s to 1880s. He met a Thembu man called Silayi who had lived with Nqabayo. Stanford also held discussions with three San who were related to Nqabayo. A statement made by a Thembu chief called Mgudlhlawa confirmed what the San had told Stanford. There are photographs of the three San people whom Stanford met in Pondoland. The third body of evidence was discovered in the 1980s. Peter Jolly, Frans Prins and David Lewis-Williams met Manqindi Dyantyi. She took them to a shelter where her father and uncle had painted. There was a large painting with a big eland, which she said was for power. One got power from touching it. She remembered how the San danced in front of the rock painting. She did not speak a San language. Her father had still been alive in 1920 and her sister, Chitiwe, was a rainmaker. Manqindi, who died in 1988, was related to one of the San women whom Stanford had met. The rainmaker's son is still alive today. In addition to the three groups of San listed in these historical sources, another two were known from other historical sources, one of whom lived near Lady Grey. It was suspected that all five groups spoke the same language.

As far as the rock paintings are concerned, Bert Woodhouse and Neil Lee found rock art in the Maclear area in the 1980s. One of the most outstanding panels is from the area where Nqabayo lived. One figure has the form of a man and now appears on the national emblem of South Africa. Dr Blundell showed us a picture of a young eland bull – the iconic image of an eland – that is found on a private farm near Maclear. In terms of detail, one would not find anything as good in Lascaux.

Storm Shelter was found in 1993 by Sven Ouzman and Geoff Blundell when they were working with David Lewis Williams on a project near Maclear. Storm Shelter was now used as a point of reference. There are 236 images in the panel. It is unique in that it depicts a series of faces. One is a strange human face with a blood-red nose, a humpty-dumpty figure with no eyes. There is a stick with the figure, but separate from it, as well as other figures with sticks and strange faces: long faces, nasal bleeding and headdresses like turbans. The images are very different from anything seen before. A painting found by Pager near Hershel shows several figures with European or Eurasian faces with big foreheads, holding sticks and with feet of antelopes. There is another dark figure with emphasis on the head and a headdress, but no detail in the rest of the body. On the farm Wartrail there are depictions of a series of decapitated heads.

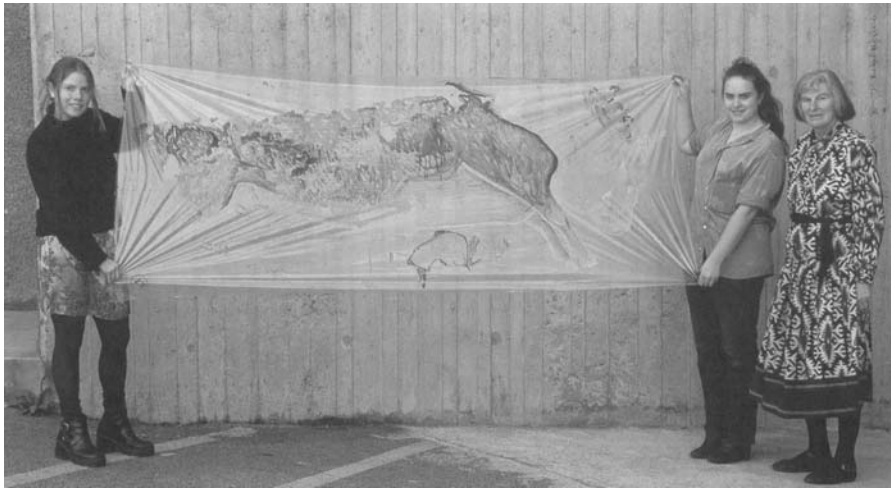
Out of 280 known sites in Nomansland, only 14 have large heads. They seem to be a form of portraiture. According to Dr Blundell, one does not find this kind of imagery in rock art anywhere else in the world.

Report by Felicity Eggleston

The People of the Eland (4 February 2010)

Professor Benjamin Smith, Director, Rock Art Research Institute, University of the Witwatersrand

Patricia Vinnicombe returned to South Africa from Australia, where she had been working at Aboriginal sites, in the year 2000 with the intention of updating her book, *The People of the Eland*, originally printed in 1976, and archiving her tracings properly. These had been stored in a loft in Underberg. She brought the trunk to the Rock Art Research Institute (RARI) and left it in the care of Justine Olofsson and Ghilraen Laue, whom she employed to catalogue, curate and redraw the tracings, many of which had been damaged by rats. The tracings were done on ordinary polythene.



Justine Olofsson, Ghilraen Laue and Pat Vinnicombe, the core team who worked at RARI on the cataloguing, housing and rendering of more than 800 unpublished Vinnicombe copies
*(*The Eland's People. *Mitchell, P and Smith, B. 2009)*

She had matched the colours as closely as possible by using backgrounds from a colour chart. All her colours were numbered and her paints archived. She had traced the paintings before Harald Pager developed his techniques and was thus virtually working in the tradition of Abbé Breuil. She used a pigment sprayer and would build up the background with different layers of colour to get a close approximation the rock background.

At the end of 2000, Pat took the Justine and Ghilraen to all the rock art sites depicted so that they could get the 'feeling' of the rocks. They worked on light tables with paper over the top of Pat's tracings to faithfully reproduce the fine lines of the originals. It took between one and two weeks to make a single copy. Vinnicombe returned from Australia at the end of 2001, by which time quite a few copies had been completed. A year later, they had completed 250 panels between them. Vinnicombe had labelled every single valley in the Drakensberg with her own code, starting with 'A' for sites furthest south to 'Z' in the north. Notes were also made on the direction in which the cave or shelter faced.

Unfortunately, only 1 000 copies were printed of the 1976 edition of *The People of the Eland* and University of Natal Press had destroyed the original plates for reasons best known to themselves. As a result, copies of her book had become extremely expensive and beyond the pocket of students and others. The University of KwaZulu-Natal Press decided against publishing the revised edition because of the cost and in the end publication went to Wits University Press. Over 300 illustrations used in the original book had to be found in Vinnicombe's trunk and in other storage places. Wherever slides were found these were scanned, as were paper copies and all originals. Pat had felt that the colours of the original artwork were not good, and Natal Museum gave permission for unlimited access to the originals in their possession.

The original text was scanned but the computer was unable to recognise the San words, so two people spent six months correcting the text. Every page was reset and all pictures were touched up as necessary. By this time the colours were even better than that of the originals! It is thought that eight photographs included in the book could have been taken by someone else; it is known that she did use some taken by Des Watkins.

RARI put R200 000 of its own funding into the book project. The print run was limited to 1 500 copies and it is likely that the new edition will not be reprinted.

Pat Vinnicombe worked in the southern Drakensberg, her husband, Pat Carter, in the Central Berg, Harald Pager in the northern Drakensberg, and Neil Lee and Bert Woodhouse in Lesotho and the Orange Free State, as it was then. Pat also worked in Ethiopia, as well as spending much time in Australia with the Aborigines. She died suddenly on 30 March 2003 while undertaking field work in Western Australia. In the words of David Lewis-Williams, 'Her passing left a gap that cannot be filled'.

Report by John Wright

The Lemba people: solving a genetic puzzle (15 April 2010)

Professor Trefor Jenkins, first Professor of Human Genetics at Wits University and until early 2009 interim director of the Institute for Human Evolution at Wits

Professor Trefor Jenkins qualified as a medical doctor at Kings College and Westminster Hospital in London. His interest in human genetics was aroused while working as a medical officer at Wankie Colliery Hospital in Zimbabwe (then Southern Rhodesia), where he encountered children with sickle-cell anaemia, a condition he had not encountered in the UK. His thesis for an MD at London University was on 'Genetic polymorphisms of man in Southern Africa'. He was Professor of Human Genetics at Wits and the South African Institute for Medical Research from 1974 to 1998. Although retired, in 2004 he was appointed interim director of the newly established Institute for Human Evolution at Wits, a post which he held until 2009.

Background to the Lemba story: There are two principal Lemba populations – the one is resident in the foothills of the Soutpansberg in northern South Africa, comprising about 80 000 people; the other is near Rusape, west of Great Zimbabwe, referred to as the Remba people. Both groups follow a culture that includes many Jewish or Arab beliefs and practices, and hence the idea has arisen that they have a Jewish or Arab heritage. The suggestion that they may be a 'Lost tribe of Israel' has intrigued both amateur and professional anthropologists and, more recently, population geneticists and the Jewish religious hierarchy.

Historical setting: Prof. Jenkins outlined the history of the origins of the Lemba, which is based on strongly-held oral traditions that describe the passage from Israel 2 500 years ago. While residing in Zimbabwe, they built Great Zimbabwe. In about 1680, a portion of them moved south, crossing the Limpopo River and settling among the Venda people in the foothills of the Soutpansberg. Dr Rudo Mathivha, a consultant paediatrician at Baragwanath Hospital, was president of the Lemba Cultural Society for many years and together with her father was a protagonist of the Lemba Jewish heritage. Citing oral tradition, they claimed that a small group of Lemba, led by the small Buba, left their home in Yemen, more specifically their city of Senna, and, probably for reasons of trade, crossed to Africa where they settled in Kenya/Tanzania and built a new city called Senna (a Senna exists to this day). Many moved on through Mozambique and another town carrying the name Senna was built there and still exists, as do related peoples with the same culture and traditions. Further migration took place through Zimbabwe and, ultimately, to northern South Africa. Their claim to building Great Zimbabwe is disavowed by modern archaeologists, who attribute its construction to the Shona people.

Much of the history of the tribes was researched by Tudor Parfitt, professor at the School of Oriental and African Studies, London University. He spent many months living with the Lemba and Remba and the result was a fascinating and popular book with the rather insipid title, *Journey to the Vanished City*. It has gone into a second edition, published in the USA. The researcher has been described as 'Indiana Parfitt'! In the book he confirms the migration possibility from Yemen and explains that the trade winds, for example, would have taken dhows from the eastern part of Yemen on to the east coast of Africa. So the 'Middle Eastern' origin of the Lemba/Remba appears plausible, particularly when it is remembered that trade activity with Semitic people down the East African coast has been conducted for over a thousand years.

The derivation of the Lemba (Remba) name is intriguing. They are referred to by others variously as:

- Varemba – 'people who refuse' (a reference to their dietary restrictions)
- Basena – 'people from Sena'
- Vamwenye – 'foreigner', 'guest', 'Arab', 'people of the light'
- 'Slamzie' – a Boer term referring to Islamic links (e.g. they wore turbans and robes) (Baines, 1850)

Wits research: Prof. Jenkins started his study of the Lemba at the instigation of the late Margaret Nabarro, for many years a musicologist and music critic on *The Star* in Johannesburg. She and her husband, Prof. Frank Nabarro, a leading academic at Wits, took Trefor along on his first two visits to the Lemba Cultural Association meeting annually at Sweet Waters on the former Kruger Day holiday.

Trefor has had a long interest in the genetics of the Lemba, starting with his association with the famous British 'blood grouper' of a former era, Arthur Mourant, who was influential in blood grouping developments back in the 1940s through to the 1970s, before DNA analysis and typing

had come on the scene. The blood groups did not help elucidate the history of the Lemba, but, in the early 1990s, Jenkins and a PhD student, Amanda Spurdle, employing DNA testing, found that the Lemba males had Y-chromosomes that were very different from those of the other Bantu-speaking peoples of South Africa and, indeed, of the rest of Africa. The findings were consistent with Lemba oral history. The Lemba did have Semitic/Jewish genetic links.

In more recent years, research led by Himla Soodyall, working in Jenkins' old department, has been able to refine this work, using more modern DNA methods. She has brought more clarity on the Jewish/Arab connections of the Lemba.

The Jewish connection: Apart from the genetic evidence, the practices and beliefs of the Lemba and their Zimbabwe 'cousins' undoubtedly indicate a Jewish or Arab connection, as indicated by the following examples:

- Monotheism.
- One day per week is to be kept holy.
- Their claim that they are a chosen people.
- Avoidance of eating pork and other forbidden foods.
- Male circumcision.
- Use of the Star of David as an emblem (though the Star does not go back to Biblical times)
- Forbidding marriage outside the clan.

Despite this, the Lemba have not been acknowledged as Jews by the Jewish religious hierarchy in South Africa. They are viewed only as an interesting curiosity.

The conclusions: Himla Soodyall's DNA work on the Lemba confirms a much stronger DNA link with the Middle East than other Bantu-speaking peoples in Africa, a finding consistent with their Yemen origins. However, the Cohen Model Haplotype (CMH) link is very weak. It is not present in the Remba of Zimbabwe, suggesting that it was not present in the original 'common ancestors' of the Lemba and Remba. A more likely hypothesis is that a 'Wandering Jew' (a certain Cohen), who was probably an early trader in the Transvaal, cohabited with a Lemba woman and conceived a son who inherited the CMH Haplotype from his father. This boy would have passed the CMH to all his sons. The Lemba woman's husband, Prof. Jenkins postulated, was a member of the Buba clan, which is said to be the 'Senior Clan', having led the Lemba in their travels southwards through Africa. The Lemba who today carry the CMH all belong to the Buba clan.

Report by John McManus

Ritual burning – a cultural proxy for drought (20 May 2010)

Professor Tom Huffman, former Head of Archaeology at the University of the Witwatersrand

I shall not dwell too much on the details of Prof. Tom Huffman's latest research, which formed the basis of his lecture, as it is published in the April 2010 edition of *The Digging Stick*. Here I outline the concepts in that paper and focus on the connections between this climate change research and our present world, and on the nature/culture relationship embodied in this work.

In recent decades climate change research has become a priority in many disciplines. Our current climate crises and the awareness of the role of human beings and cultural practices in this crisis have led to much publicity around these issues. Prof. Huffman's research into pre-colonial ritual practices and their connection to cycles of climate change in southern Africa come at a pertinent time in our climatically challenged world. Huffman's research shows that climate change is not a new phenomenon on earth, nor that the connection and association between human beings and climate change is new. However, what is new about Huffman's latest research output is that archaeologists may now be able to use cultural practices as proxy measurements for detecting some of the more severe climatic shifts in southern Africa's Iron Age.

The collective roles of trade and agriculture in the formation of the Mapungubwe kingdom are well known. However, the role of climate change in the rise and fall of early states and kingdoms in southern Africa is an often cited topic. Huffman, and his numerous PhD students both past and present, have synthesised a body of work that shows the connection between ritualised burning of grain storage bins and prolonged periods of drought linked to El Niño cycles. Working with the concepts of spiritual pollution, ritual cleansing, sacred sites, rainmaking and isotopic signatures of domestic animal teeth, Huffman explains the connection between human culture and climate. The central tenet of this explanation is that a human dimension (i.e. spiritual pollution) can always be found to explain the consistent failure of some form on natural phenomenon from appearing (i.e. rain). When rain does not come for extended periods (three to five years) and routine ritual activity has failed, the political hierarchy and their ritual staff must seek extraordinary measures. These measures often involve the search for individuals whose actions, or lack thereof, can be implicated in the prolonged absence of rainfall. In some situations, these individuals must cleanse themselves and their households by ritually firing their offending grain storage bins. This action leaves an enduring archaeological signature for ritual pollution, cleansing and for severe periods of drought in southern Africa.

There are a number of important morals to be learned from the work of Prof. Huffman and his students. Firstly, climate change is not something new, as is being assumed by many people. In fact, human societies have lived for thousands of years in shifting climatic contexts. Second, human beings have a role to play in influencing climate and climate change. Lastly, for millennia humans have understood their role in this changing climatic world, and whether you attribute these changes to spiritual phenomena or science, or both, we have a responsibility for our planet and its climate.

Report by Justin Pargeter

Who is responsible for South Africa's mineral heritage?

(22 July 2010)

Professor Bruce Cairncross, Head of the Department of Geology, University of Johannesburg. He is also Chairman of the Geological Consultative Committee of Museum Africa in Johannesburg.

Prof. Bruce Cairncross is not only a professional geologist, but also a collector of mineral specimens and a member of several mineral collecting clubs in Johannesburg. Responsibility for our mineral heritage is legislated under the Heritage Resources Act, but Bruce raised a very pertinent point relating to the term 'cultural significance', asking the question: 'Are geological specimens of cultural significance?'

Mineral specimens have been collected for hundreds if not thousands of years. They form the core artefacts of most geology museum displays. Some countries have legislation in place that aims to protect geo-heritage, but mineral specimens are usually not included as geo-heritage items. In South Africa, Act No. 25 of 1999, the National Heritage Resources Act (NHRA), 1999

(*Government Gazette South Africa* 406, 1994) has, quote, 'rare geological specimens' as one of the heritage items afforded protection by the act. While this may seem laudable, there are a myriad of complexities relating to the definition of rare geological specimens, and mineral specimens in particular. Archaeological artefacts and meteorites are clearly defined by NHRA, yet 'rare geological specimens' are neither described nor defined.

What is 'rare'? One of the inherent problems is the potential ephemeral nature of rarity when it comes to geological specimens: what is rare today, may become abundant tomorrow. The following examples that present some of the pitfalls in defining and recognising 'rare geological specimens' were discussed by Prof. Cairncross:

- Rarity as defined by abundance *per se*.
- Rarity of a particular habit (external shape or form) of a mineral.
- Pseudomorphism: rarity of a particular variety of a mineral.
- Rarity of a particular colour of a common mineral.
- Rarity defined by size.
- Rarity defined by quality.
- A common species, but rare for a particular locality.
- Rarity of associations of minerals.
- Rarity determined by a source being depleted, exhausted or mined out.
- Inclusions in minerals.

Bruce Cairncross illustrated each of the categories with beautiful photographs of mineral specimens. He discussed, for example, how a common mineral quartz that cannot be described as rare, can grow to such an abnormal size that such a crystal could certainly fall into the category of a rare geological specimen. As an example, he referred to the existence of a single crystal with a mass of 15 t. A 'rare geological specimen' may therefore meet one or more of the above criteria.

The policing, enforcing and application of the NHRA would require experts who are competent to pass judgment on any or all of the criteria. In addition, there can be no control of collection or export of rare geological specimens unless a specific list of specimens is available to SAHRA inspectors, which is just not possible. The list would have to be updated whenever a new rare geological specimen is discovered, when rare specimens may lose their rarity status, or common species become rare. This would be an insurmountable task.

Finally, the reasons for conservation in the NHRA are stated as safeguarding objects of *cultural significance*. The question is: are geological specimens of cultural significance? They serve no cultural significance unless –

- they have been manufactured into archaeological artefacts, such as stone implements, or
- are rocks that serve as surfaces for culturally important paintings or petroglyphs, or
- contain fossils, in which case the palaeontological protective aspect of the NHRA applies.

Some have argued that geological specimens in isolation have no cultural heritage value as almost all predate the evolution of humankind, which, by definition, relates to culture. Therefore, geological specimens per se should not fall under the protection of the NHRA as they are neither defined by this act nor are they *culturally* significant. They are, however, important in other scientific, academic and economic ways, and their protection and preservation may be necessary from these standpoints.

Having been deeply involved with the re-opening of the geological collection in Museum Africa, Prof. Cairncross discussed the modern issues of museum displays, the lack of funding and, probably most importantly, the lack of proper professional curation of what are valuable and unique collections of gem and mineral specimens. The problem is not unique to South Africa. He mentioned that world-class collections, such as those at the Sorbonne in Paris, the Philadelphia Museum in the USA and the British Museum of Natural History in London, had either been removed and stored, or broken up as a collection and sold to raise funds or for redisplay in such a manner as to detract from the natural beauty of the material. Cairncross touched on the subject of 'glitzy' displays rather than the more traditional methods and how such trends were spreading around the world. This was resulting in many fine collections being broken up and sold.

Prof. Cairncross referred to the value of some specimens and the fact that for many the collecting of specimens was not only a hobby, but had become a huge investment. The lecture was well received by the members and introduced to many the complexities of a piece of legislation that fails in the instance of geological specimens to define what they are and why they should be protected by the act.

Report by Graham Reeks

The Vikings in legend, fact and fiction (5 August 2010)

Professor Leonie Viljoen, Research Fellow, Department of English Studies, Unisa

Prof. Leonie Viljoen's lecture was extremely interesting and did much to dispel the misconceptions that most of us had about the Vikings. Rather than the picture of 'marauding, pagan, killers' we came away with a much greater understanding of a people who established a kingdom stretching from Greenland to Samarkand in the east, Newfoundland in the west and the Mediterranean in the south. Little has reached us from the Vikings in writing, and most of our knowledge about them comes from archaeological excavations, rune stones and the writings of clerics and Islamic historians.

The Vikings were relatively unknown until they raided the holy island of Lindisfarne, off the English coast of Northumbria. This raid, on 8 June 793, shocked English and European clerics, who were appalled not only by the fact that such a sin could have been committed, but that it was done with such violence. This marked the beginning of regular raids, largely of a hit-and-run nature, along the British coast. Poorly protected monasteries and churches with their gold and silverware were easy targets. Fortunately, the beautifully illustrated, handwritten *Lindisfarne Gospels* were spared and can still be viewed in the British Library.

The marauding activities of Vikings were no worse than that of other peoples at the time. Essentially they were farmers and traders and it is not known why they suddenly began raiding other countries. However, raiding was perceived, particularly by young Vikings, as an easy way to gain wealth and power, not only from church treasures, but also the capture of slaves. It was a profitable summer occupation. As soon as the crops had been sown, raiding commenced, with return in time for the harvest. Viking ships were of a shallow draught, but nevertheless had a substantial keel on which to support a mast and sail, and both oars and sail could be used. Shallow draught allowed the ships to be beached and ported overland using wooden rollers. The boats were fast, but afforded little shelter from the harsh weather of the North Sea.

Ships were an important asset and only noblemen or men of stature were buried along with their ships, weapons and treasure. Vikings were exceptional metal workers and their weapons, especially swords, were beautifully decorated. The double-handed axe for which the Vikings were famous, was originally used by the guards of King Cnut. Christians were not buried with grave goods, so Viking graves are easily distinguished.

The Nordic races where considered as one during the time of the Viking era and it was only after their defeat in the Norman Conquest in England in 1066 that they split into separate coun-

tries. Danish Vikings invaded Britain and France, the Norwegians invaded Scotland and Ireland and the Swedish Vikings sailed up the Volga River and travelled as far east as Istanbul, where they served as mercenaries, and Samarkand. The Arab market for slaves was an obvious attraction for their marauding activities.

Vikings settled easily in Britain and intermarried with the locals. The influence of their language is apparent in the English language, particularly when it comes to place names that end in -by, -thorpe and -thwaite. The major Viking god was Odin and the Vikings believed in both gods and giants, both of whom where continually at war. They gradually accepted Christianity, and the Treaty of Wedmore was signed in 878 between Guthrun, the Viking leader, and Alfred of Wessex. Alfred became Guthrun's godfather and in turn recognised Guthrun as the leader of East Anglia.

Report by Noni Vardy

FIELD EXCURSIONS AND OUTINGS

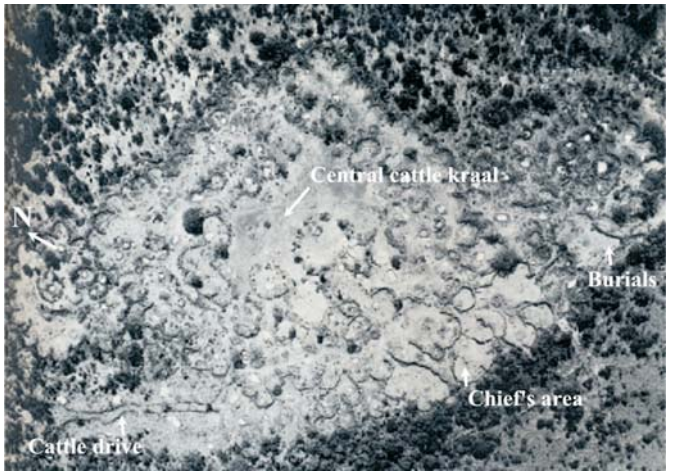
Some of the archaeological sites of Olifantspoort (19 July 2009)

With Graham Reeks, Master's student, Unisa, and Trans-Vaal Branch committee member

Our outing was to the farm Olifantspoort, the home of the Retief family, which settled here in 1870 after leaving the Cape in 1817. The farm is now being run by the fourth generation. The first site we visited was that of an Iron Age (IA) mine that possibly functioned between AD 1200 and 1400. Graham Reeks, a mechanical engineer turned archaeologist, is working on this site, which was first explored by Andrew Smith during an expedition in 1835. Graham gave us each a handout of a painting done by the artist Charles Bell showing Gifkoppie on which the mine is situated. The name Gifkoppie derives from the fact that it was covered by Gifblaar, a small shrub that is dangerous to cattle. In 1973 Robbie Steel, field assistant to Prof. Revel Mason, conducted excavations on the site and discovered stone hammers, plain potsherds, crushing stones, grindstones, charcoal, ash and slag, all the tools needed for a systematic mining operation. Graham's handout also showed a picture depicting the layout of the mine. During the expedition of 1835 the remains of kraals could be seen below the ridges, which suggested a large population. The site had been abandoned by then.

On the mine site the discerning eye could see where the copper workings had been. A substantial trench had been dug at the site. The seam of quartz was about half a metre in width. There had been seven stone crushing areas and a grading process, as indicated by the presence of pounding stones. There was no evidence of smelting and one theory is that the material was taken to Uitkomst cave some 80 km away. Browsing round the site was most interesting. There were several small green rocks, some banded. Other pieces showed quartz and other minerals. It was evident that the mine had been run in a systematic and pragmatic way. The copper found here was probably used to make jewellery and for barter.

The second site visited was on a hillside on the opposite side of the main road to Rustenburg. We walked up a hill for about half a kilometre through lovely bush country, with the grasses the tawny colours of the Highveld winter. The IA village was spread out on the north-western slope of the hill and the plan indicates 'orderly town planning'. The people who lived here round about 1600 to 1700, the Kwena, were a very large community of about five to six hundred people with about a thousand head of cattle. Prof. Mason described it as the 'Olifantspoort Megasite Cluster'. Evidence such as iron hoes showed that a certain amount of agriculture was practised, with millet and sorghum being grown. A nearby river provided water and the area had teamed with game, including large varieties of buck, porcupine and leopard. After clearing the site, Prof. Mason had excavated 85 hut floors, from which he developed four different hut classes. Class one was a single-cell, round-walled hut with a door; class two a double-celled unit with an internal sliding door; class three a triple-celled unit; and class four had a raised platform for beer pots and was described by him as the 'summer house' or 'men's drinking hut'. This could be a sort of 'men's night out' club, which suggests gender rites and roles. Lobed outer walling surrounding a number of huts created a single family unit; in today's terms a townhouse complex.



An aerial view of archaeological site 20/71 at Olifantspoort
(RJ Mason, 1986, Origins of Black People of Johannesburg and the Southern, Western and Central Transvaal AD 350-1880*).*

The site is oval with about 125 huts built into the perimeter bays surrounding a central cattle area with walled cattle enclosures. A cattle drive with two parallel walls connected the central kraal to the grazing areas. The walling and huts were built with lozenge shaped dolomite stones that dovetailed neatly. An interesting feature is that the walling at the highest part of the hill is much higher and of better building quality than that of the homes further down. Excavation of the village middens had revealed that the chief's midden contained more cattle bones as against the predominance of sheep and goat bones in the commoners' middens, providing evidence of a class structure. Bones of wild animals were also found in abundance. One of the most interesting features of the site was the evidence of sliding doors, some of which can still be seen clearly. It has been assumed that the doors were made of Boekenhout. Excavations unearthed a burial site where five skeletons were found, one in a sitting position and the others in the foetal position. Other artefacts recovered included grindstones, potsherds and vessels, some complete, as well as glass beads and ostrich eggshells. We saw plaster polishing stones, strange ring-like circles and flat slabs of stone that are believed to have served as fireplaces. The site also provided evidence of iron smelting. While Robbie Steel found engravings like hut settlement plans, the exact location of these cannot be determined.

What an interesting day! Although there are many hilltop sites with evidence of IA and LIA settlements, it would be hard to find one as intact as Olifantspoort. Graham Reeks and Professor Jan Boeyens of Unisa made the village come alive. Standing on the beautiful hillside it was possible to visualise this well-designed and constructed village teeming with people busy with their designated tasks and social rituals, and their animals. The question always remains: where did they go? Why did they leave? Suggestions posed were that they were chased out by Mzilikazi, or that there were significant climate changes that forced them away. The missionary Robert Moffatt in 1829 described this area as follows: '… the ruins of innumerable towns – some of amazing extent – exhibit signs of immense labour – every fence being composed of stones, averaging five or six feet high – some of the houses were large and showed a far superior style and taste to anything I had before witnessed. The whole country appeared once to contain a dense population … now it had become the habitation of wild beasts' (as quoted in *Cradle of Mankind*, by Lee Berger and Brett Hilton-Barber.)

Report by Gerry Gallow

Nkwe British military encampment (16 August 2009)

With Stan Kantor, a member of the SA Archaeological Society

Stan Kantor began by outlining the history of the farm on which Nkwe is situated. It was bought by the Allendale family in 1885, but the homestead was destroyed by the British Army's scorched-earth policy in 1900. The farm is now owned by the third generation of the family and has been run as a very attractive resort and caravan park since 1980.

After Pretoria was taken by Roberts in 1900, the British somewhat optimistically assumed that the war was over. However, Botha assembled his forces east of Pretoria. It was on the craggy, rocky hill called Nkwe that the British erected a fort and an encampment. This hill was a good place for a position as access from the north was up a steep rocky slope, the western side was almost sheer down to the Pienaars River, the eastern side was high and craggy, and along the southern ridge a wide view is had of the plains below. The types of fort erected on Nkwe hill were called a sangar (a British term of Indian origin), which was either round or square and could vary in size to accommodate between two and ten men. The significant feature of these forts was that they were built with double walls with the space between packed with rocks that leaned towards each other to prevent the structure from collapsing onto the soldiers inside. We saw at least seven sangars at various places on the hill. Stan explained that sangars were constructed differently from similar Boer forts, which tended to be square and more upright in their construction. They were called a Skans (redoubt) and were built back from the edge of a sheer place, providing an escape route out the back.

Near the top of the hill is a relatively flat area on which the parade ground was situated. The main camp housed the tents of the officers and the men, and was bordered by a stone wall. The kitchen was adjoined by a pit and a kraal for the cattle. Remnants of a perimeter wall can still be seen. Northwards from this area was an old mule track, by which we descended the hill at the end of the visit. We were puzzled by a small walled space and many suggestions were made as to its purpose. Perhaps it was used for storage, or as a farrier's place, or to hold the young calves while the cows were being milked. A fence, now rusted away, had existed along the tops of the gullies as part of the fortifications.

From the parade ground we headed further up the hill through a wooded area beyond which there was a clear view to the east. A large sangar occupied a vantage point. At the summit of the hill a Rice fort (the name refers to the architect who developed the design) had been constructed. This type of fort is built of overlapping corrugated iron sheets with the space in between filled by rock. The advantage of Rice forts were that they were quick to erect and dismantle. From this fort there was a 360° view. Diamond Hill, called Donkerhoek by the Boers, could be seen in the distance to the north. That hill was the scene of a great battle on 11 to 12 June 1900. Among the 150 British killed was Lieutenant-Colonel, the Earl of Airlie. Later Sammy Marks, the Pretoria industrialist, helped Lady Airlie to purchase land on Diamond Hill as a cemetery for the British dead, and here the Earl is buried as well. Lady Airlie returned to Britain and became a lady in waiting to Queen Victoria.

Nkwe has something for everyone. It is a challenging hike for the Sunday walker. For the botanist and tree lover the bush, tree and grass species are very interesting. Birds soared over us and there was evidence of small animal life in the area. For the historian there is much to explore and examine related to the Anglo-Boer War. For the geologist the rock formations go back to the beginning of time. There is evidence of a Stone Age settlement: small white stones with indentations on them suggest a bygone age of wandering peoples. Iron Age settlements are not evident because in the two years of British settlement on the hill the remnants of occupation would either have been used as building material or been removed. With the Pienaars River flowing through the area, a waterfall and a very deep pool, as well as the beautifully laid out recreational area, Nkwe is an ideal spot for a day's outing.

Report by Gerry Gallow

Rock art and cultural sites in the Drakensberg (2 to 6 September 2009)

With Anna Steyn, independent archaeologist and a committee member of the Trans-Vaal Branch

Mbebe Shelter, 2 September: Members met at the Bergville Hotel in the early afternoon and proceeded in convoy to the Mweni Cultural Centre, Amangwane Tribal Ward, in convoy. After settling in, we walked along the river to the Mbebe Shelter. The site was introduced to us by Zacharia Dlamini, who told us about the tribes that had lived in the area. This shelter had been in use by the San some 8 000 years ago. The next inhabitants of the valley were the Amazizi tribe, who were pushed out to the Thukela Valley by the arrival of the Amangwane tribe. 'Amazizi' and 'Amangwane' are clan names within the tribe.

Mbebe is situated in shale (most shelters in the Drakensberg lie in sandstone). The rocks are rather exfoliated, but one can just make out images of eland and a few humans. The images were painted using a mix of charcoal, fat and blood. Anna Steyn went on to explain the images. The paintings of the eland were polychrome, with a red body and white dewlap, the head of an earlier eland painting unfortunately having exfoliated considerably. There was no attempt at shading the paintings. Overlapping the lower eland was an eland depicted with white legs. This later painting was also rather static, but could have had the meaning of a 'crystallised idea'. There seemed to be more life to the younger painting. The concept of the overlapping eland could have been that of a 'prayer added over a prayer', such as had occurred at Eland Cave. It was symbolic of a trance dance, of moving from one shape and into another. Also depicted, was a group of three rhebok with their ears up. There were two groups of humans, which seemed to be unrelated to the earlier paintings.

Anna went on to discuss how the various figures were put together by the artists, and what was

intended to be said by the various depictions. A set of running legs could possibly have belonged to a drawing of a bow and arrow, but the exfoliation was such that one could not be sure. Anna believed that the artists used the patterns in the rocks to express the art. The different styles attested to different artists at work here. The group was asked to comment on what they were seeing. One of the figures appeared to be a therianthrope, while an unidentified animal was thought to be either a jackal or a hyena. One could make out what looked like a quiver bag. The paintings were bichrome, shaded polychrome and it looked to some as if certain paintings may have been etched. A vet in the group tried to make out which of the eland could have been a bull, bulls having longer necks and bigger dewlaps. There was speculation that some of the paintings were not attributable to the San.

A wavy line could have been a depiction of a snake. Another therianthrope was found just below what was possibly a hippo. There was also speculation that the superimposed eland could have been a 'rain animal', and that the human figures were possibly associated with this animal. All in all, the discussion and 'conclusions' drawn were a very satisfying way of analysing a rock art panel, and all agreed that they saw a lot more in the panel than when they had started out.

Report by Ann Strzybny

'On being a sangoma', 2 September: Before dinner we congregated in the dining room of the resort for a discussion by Ephraim Dlamini, a sangoma, about what was involved in being a sangoma. As he could not speak English, his brother, Zacharia, acted as interpreter. Agrippa Zonzo, the manager of the resort, introduced the speakers. Ephraim stated that he had one wife and eight children, the youngest aged 11, and about six grandchildren. He said that he was called to be a sangoma in 1976. At the time he had been working in Vereeniging, where he had become ill and his feet had become swollen. He had returned home to Mnweni, had slept for a week and had then gone on to learn to become a sangoma. The training had taken approximately a year. As a sangoma, he oversaw people spiritually. 'The spirit can just come through to make you a sangoma.' When asked what the difference was between a sangoma and a traditional healer, he said that sangomas could foresee the future and act as prophets, whereas traditional healers could only dispense herbs to cure illnesses.

Ephraim and Zacharia Dlamini telling us about the functions of a sangoma

When asked how a sangoma diagnoses illnesses, Ephraim said that a sangoma could feel the sickness that a person had in the sangoma's own body – 'his sickness becomes your sickness.' The spirits will then tell the sangoma which medicines to mix together to heal a person. To the question whether sangomas could heal a white person, he replied that he would have to ask his ancestors on a case-by-case basis whether or not this was possible. To another question about how a sangoma distinguishes between a sickness of the body and sickness of the mind or spirit, Ephraim replied that a sickness of the body was 'natural', while a spiritual sickness was brought on by witchcraft. To cure sickness of the spirit he would talk to the ancestors in order to obtain direction.

Report by Welmoet Bok

Bhendeni Shelter, 3 September: Bhendeni is a small shelter with depictions of therianthropes and eland. From Mweni, in sparkling Drakensberg weather, we followed a river, past the homes of colourful and cheerful local people. Anna Steyn facilitated the interpretation of the panels, with enthusiastic participation by all of us. There were three panels, with many images seemingly by the same artist. Paintings included a snake winding out of a crack in the rock face, tall men, a rhebok and the face of a jackal looking backwards with blood coming from its nostrils. Hooves were depicted, as well as a square carry-pouch and what appeared to be frog fingers. A praying mantis was clearly drawn. A bag, possibly painted by a lady, could indicate ownership of the panels. Different paint had been used in later paintings. Much debate took place around the identity of a particular painting, which the majority decided was a warthog. Overall, all of the art seemed to depict the transition from the idyllic, intact world into the spirit world. A therianthrope with the head of an antelope, possibly an eland, appeared to have 'gone through' to the spirit world.

Report by Alan Woodman

Patrick's Shelter, 3 September: From Bhendeni we crossed the river and hiked up with guide Zacharia to Patrick's shelter, which was a stiff climb through beautiful scenery. Arriving at the shelter, our first reaction was disappointing. We found two large boulders with badly weathered rock art. Goat herders obviously lived in the shelter and had made fires next to one boulder. There was a stone-wall enclosure for the goats and an old bedstead stood behind a wall. Zacharia told us that Len van Schalkwijk had taken photos at this shelter, which could be seen at the Natal Museum. Zacharia was astounded by how much had been destroyed since his last visit.

It did not get us down, however, and after a picnic lunch we started workshopping the paintings under Anna's guidance. After the initial disappointment, it was amazing to see what came out: figures shooting each other, two therianthropic figures leaning forward, an eland and three running figures in thin lines. Anna explained that the damage to the paintings could be the result of spiritual beliefs as well. When people come into a valley, they go into special places where spiritual powers exist. This can be blocked so that others cannot take over. They will then try to obliterate what is there. Deeper into the shelter we found black-shaded paintings, which could have been painted in red, but which the eggwhite would have turned black over time. A shiny black stain against the roof of the cave was not damage from smoke, as some thought, but the result of the urine of hyraxes seeping through the rock from above and solidifying. Black crosses on the side walls were probably painted with muti by the shepherds to keep away bad spirits. There were shaded polychrome figures flying through the sky. Their hands and feet had thin-line extensions, there was bleeding from the nose and they had tails. One figure was throwing something. A hunter was aiming an arrow at a bush pig. Apart from antelope and a baboon, there was a black donkey with a white load on its back.

When we were satisfied with all we had found in Patrick's Shelter we started to descend and embarked on the long walk back to Mweni, arriving hot and tired, but very happy.

Report by Marianne Miller

Lower Mushroom Rock and Didima, 4 September: We departed from Mnweni and drove to Cathedral Peak Hotel. With our picnic lunches in our backpacks, we walked to Lower Mushroom Shelter, which contains exquisite paintings of polychrome eland, therianthropes and animated humans in interaction with depictions of felines. Afterwards we drove to the well-positioned Didima Resort. Once settled in, we visited the Didima Rock Art Centre and were privileged to view a new video on Harald Pager and the rock art he documented in the Ndedema Gorge nearby. We were the first persons to see this fascinating video.

Our leader, committee member Anna Steyn (left) in front of Patrick's Shelter, with your editor, Reinoud Boers, behind

Procession Shelter and Drakensville, 5 September: After watching another video at the Ndedema Rock Art Centre on how the San produced their paints and applied this to the rock surfaces, we headed to Cathedral Peak golf course. From here we walked up to the large and relatively undamaged Procession Shelter. This is the site of a well-known panel of therianthropes. This and many other images were discussed and analysed in great detail before we headed back. Lunch was had next to a lovely pool and waterfall. Most of the participants then headed for a night at Drakensville near the foot of Oliviershoek Pass.

Excursion to Cullinan and Premier Diamond Mine (8 November 2009)

We started the tour of Cullinan with a brief DVD on the history of the mine and the village. Then, safeguarded by UN-style blue helmets, we entered the high security area of the mine itself, passing the old Presbyterian Church for which the cornerstone was laid by Thomas Cullinan in 1908. Our first stop was the historical diamond display room. The room contains fascinating posters on the mining operations. Our guide, Keith Short, explained that when the mine outgrew the open-pit mining method, two shafts were sunk to a level of 700 m below surface. Tunnels from the main shaft cut through the rock and intercept the horizontal seams of kimberlite in which the diamonds are encased. Unlike other mines, Cullinan, which is known as 'the gentleman's mine', does not have rock falls or water problems.

The display cases in the room were filled with diamonds of infinite beauty. Some are green, or of the rarest red, or yellow-brown. The Golden Jubilee diamond, found at Cullinan in 1986 and weighing 545,67 carats, is the largest diamond in the world and is now in the Royal Museum in Bangkok. The De Beers Millennium Star mined in 1990 is so flawless that diamond experts cannot put a price on it. It took three years for cutters to decide how to cut it and now it is the world's only flawless pear-shaped diamond. It weighs 203 carats.

The diamond is a mineral like coal. As pure carbon it is the most brilliant of minerals and the hardest natural substance known to man, being 58 times harder than the next hardest mineral. Diamonds are immensely old, with the youngest having been formed 900 million years ago. The pressure in volcanic pipes was the catalyst for crystallising pure carbon into diamonds. Volcanic gases tinged the diamonds with colour, which determines the worth of diamonds – the colourless blue-white is the most expensive. A diamond can only be cut by another diamond unless it has a cleavage, i.e. when minerals have breached the formation lineally. In that case a sharp blow will create a clean split.

The Cullinan diamond was found in 1905 at a depth of 9 m and weighed 3 106 carats. It was bought by the Transvaal Government for £3 106 and was presented to King Edward the VII. It was cut and polished by Asscher of Amsterdam. The king retained the main stone, which is known as the Star of Africa, and presented five lesser stones to Asscher in payment. The Star of Africa is in the Royal Sceptre and the Lesser Star of Africa in the Imperial State Crown. Diamond stories abound. A diamond was found by children playing on the banks of the Vaal River. A visitor thought it was 'interesting' and offered to buy it, but the mother refused payment. The owner sent it to England, but it was sent back as being a 'fake', since 'there are no diamonds in Africa'. Another well-known diamond is the Koh-i-Nor ('Mountain of Light') from India. It was so coveted that many fought over it. The blue Hope diamond is believed to have brought bad luck to all that owned it. It is now in a museum in Washington DC. The highlight, at the time of our visit, was the discovery in September 2009 of a 507 carat white diamond of 'exceptional colour and clarity'. It is considered to be among the 20 largest high-quality rough diamonds ever found, and has been named the 'Heritage Diamond', since it was found on Heritage Day.

Keith told us that diamond fields have a relatively short life. Few can be found in India now, but diamonds are still mined in Angola, Botswana, Namibia (mainly alluvial), South Africa, Australia (mainly of industrial quality) and Russia. Cullinan predicts a life for itself of at least two decades. The chief cutting works used to be in Amsterdam and Antwerp, but these were scattered during World War Two. Today the cutting works are in Antwerp, New York and Israel. Although diamonds are best known for their beauty in jewellery, they are invaluable in industrial use, mainly in the engineering field. De Beers supplied NASA with blue-white diamonds for its successful Venus MultiProbe Project. The probe was launched in 1978 to make the four-month, 36 million km journey to Venus. The spacecraft contained a unique window that was 18,2 mm in diameter and 2,8 mm thick, making it the largest optically finished plate of pure diamond ever shaped for industrial or scientific use. The desired irregular shape required extremely precise cutting and took several months to complete. The finished 32-sided window had the purpose of keeping the Venusian atmosphere out of the spacecraft, but let light in.

Our next stop was a simulated mine tunnel. It was pleasantly high and wide. We then visited the hoist room with its gigantic drums and thick, many-layered cables. The mine tour culminated in a walk to the big hole, which grew from an open pit in 1906 to its eventual diameter of 1 km by 0,5 km. The walls are the 'colour of Africa' and range through browns, oranges and blue-grey tinges. The volcanic pipe is believed to have been formed 1,5 billion years ago and to have erupted 1,2 billion years ago. From the viewing platform it was indeed a most spectacular sight.

Outside the mining area we visited the diamond and jewellery shop where we gazed at and dreamt about having the breathtakingly beautiful jewellery on display. After a group photo next to the statue of Thomas Major Cullinan, we returned to the museum for a DVD on the history of Cullinan and its people. In 1896, William Prinsloo bought the farm on which the village of Cullinan now rests. Cullinan suspected that the farm had mineral potential and bought the farm after Prinsloo's death. After the Anglo-Boer War, his daughter, Marie, was forced to sell it. Cullinan started prospecting and registered The Premier Diamond Mining Company in 1902. The first manager was William McHardy. By 1904 the mine was employing 2 000 people, which rose

to over 3 100 people by 1905.

An industrial dispute in 1914 and plummeting diamond price following the start of the First World War resulted in the suspension of operations. The mine reopened in 1916 and De Beers Consolidated Mines acquired a controlling interest. The year 1918 saw another disaster, with the flu epidemic decimating many Cullinan families. Mining activity was suspended once again in 1929 following the Great Crash. Retrenched employees were allowed to remain in their houses and were given assistance with food and clothing. From 1941 to 1945, Italian prisoners of war were housed at the nearby Zonderwater Prison. The army took over the village, even pitching tents on the golf course! In the course of time the village grew to a small town and new buildings arose, such McHardy house, now a museum, and the beautiful little Baker Chapel. The Recreational Centre built in 1912 became the focal point of village life and now houses the paintings of Italian prisoners of war. Today many of the employees live in Pretoria and elsewhere, while many non-mine people have bought houses in Cullinan. The mine now belongs to the Petra Diamonds.

The jacarandas, holding onto the last of their spring blooms, glistened after a bit of rain and shone in the warm sunshine. It was an interesting and stimulating day, and the picturesque Victorian village provided a fitting year's end to the Trans-Vaal Branch's 2009 programme.

Report by Gerry Gallow

Mapungubwe Museum, University of Pretoria (28 February 2010)

With Sian Tiley-Nel, Curator, Mapungubwe Museum

Set in the verdant, treed and beautiful campus of the University of Pretoria, the Mapungubwe Museum is housed in the Old Arts Building. Mapungubwe has inspired the curiosity of many, from archaeologists and historians to prospectors and opportunists. The ancient Mapungubwe civilisation, which existed from AD 900 to 1300, remained undiscovered until 1932 when Pretoria University obtained the rights to excavate the site. Today the Mapungubwe Museum is the focal point of all, or most of the collections of Mapungubwe artefacts and we were indeed blessed to have its curator, Sian Tiley-Nel, to guide us round and tell us the absorbing history of the collection. In a lecture called 'Behind the scenes at Mapungubwe', Sian took us through the adventurous history of the site, the assembling of the collection and the frustrations of administrative intervention.

Going back to the beginning: near where the Shashe and Limpopo rivers converge, Mapungubwe Hill rises. The fertile river plains and the convergence of rivers is believed to be the reason for the settlement and the trade that developed, since the rivers formed a strategic route for trade and communication. Mapungubwe Hill, with 30 m high cliffs, created a natural protective area where the people, whose origins remain a mystery, could live, work, trade and flourish in relative safety. Mapungubwe developed into the first complex society in southern Africa.

Little was heard of Mapungubwe until the 1890s and Sian led us through the journeys and discoveries of the men that where influential in its recreation. An old recluse, Francois Lotrie, was responsible for the first recorded discovery on the hill. He found some gold but, all that remains of this is a single gold bangle. Jerry van Graan was told the story by his father of an old man he had met who reminisced about the treasures of kings, with clay pots filled with gold emeralds and diamonds. In December 1932, while on a hunting trip, van Graan was given water in an earthenware pot by an old man who refused to part with it. The man's name was Mowena and he was undoubtedly the same man who had spoken to Jerry's father some 40 years earlier. After initially refusing, Mowena, suitably reimbursed, led van Graan to the hill and pointed out a fig tree growing in a gap in the perpendicular rocks. Thich was the only way up. In this manner van Graan and his party found the magic stairway to this ancient world, an archaeological treasure house.

In January 1933 the group returned and with picks and shovels, and uncovered treasure upon treasure, including an intact golden rhino with a missing tail. The adventurers hid the trove, but Jerry van Graan, who had some understanding of ancient artefacts, eventually put some gold leaves, nails and beads in an envelope and sent this to his old professor at the University of Pretoria (UP). Prof. Leo Fouche, then head of the Department of History, organised an expedition to secure the site for archaeological research. Van Graan and his friends were persuaded to hand over the artefacts recovered by them to the university, and the site was policed from February 1933. The government bought the Greefswald farm from Ernest Ewan Collins, a Johannesburg attorney. Encouraged by the universities of Pretoria and the Witwatersrand, the Act for the Preservation of Ancient Monuments was passed in 1934.

Early pioneers in research at Mapungubwe were Prof. C Van Riet Lowe from Wits, Prof. Fouche and JF Schofield, an expert in ceramics. Together with Jones, Tromp and Prime Minister JC Smuts they were responsible for much of the display in the Mapungubwe Museum. Some 5 600 artefacts were excavated from Mapungubwe and the site generated 300 newspaper articles. The image of the golden rhino rests on the tomb of Jerry van Graan. While some people still have pieces of gold and other artefacts in their private collections, there is quite often a good response to appeals to return these, with some arriving in paper bags.

Sian then told us a great deal about the enormous task of collecting, collating and establishing stratigraphic records. In 1961, archaeology became an independent and specialised field at UP and 1970 saw the start of full-time research on, the recording of cultural materials from and the interpretation of the stratigraphic composition of Mapungubwe Hill and K2. The university focused on the faunal remains, human skeletal remains, Chinese porcelain, gold objects, glass beads and radiocarbon dating. There are still many boxes of artefacts in storage and have five researchers working on them. The British Museum's Metal Conservation Department was commissioned to restore some of the golden artefacts to prepare them for the collection. This led to the establishment of the Mapungubwe Museum in June 2000.

Restoration of the artefacts is a painstaking and exacting task. Many of the gold pieces disintegrate when touched. The paper-thin gold was beaten and shaped around a mould of soft wood, and held in place with gold nails. Some pieces have been just too fragile to reassemble. Early efforts had sometimes proved to be incorrect. The policy is not to affix the pieces too strongly onto a new mould, sometimes made of polystyrene, so that changes can be made if required. When the golden rhino's tail was found, there was considerable discussion on how it should be positioned – finally it was decided that the tail should be upright (like that of a warthog!). The 'golden bowl' was later believed to be a cap for wearing. It was not always easy to decide to which animal pieces belonged.

Sian told us about the many people worldwide who are interested and involved in Mapungubwe and the museum. Two considerable restraints on research is the need for government permission in many respects, which is slow in coming, and the shortage of funding for research and restoration. Partnering the museum is the Interpretive Centre at Mapungubwe, which will eventually also display artefacts. Archaeology is part of the Grade 6 curriculum and many schools visit the museum.

The displays in the museum are well presented and one can get a really good view of the beads, gold jewellery and ceramics. The golden rhino is resplendent in a well lit case and in adjoining cases there were a golden bovine, cheetah and rat. This is a beautiful museum and beckons one to visit again and again.

Report by Gerry Gallow

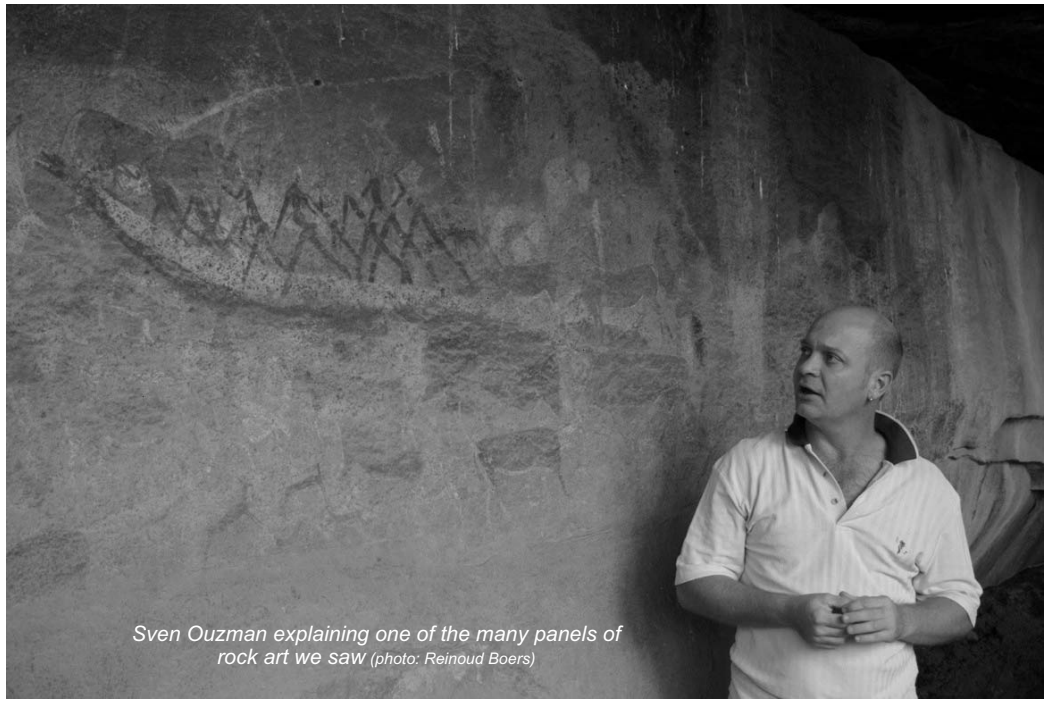
Tour of the rock art and sacred sites around Clarens, Free State

(19 to 22 March 2010)

With Dr Sven Ouzman, Senior Lecturer, Department of Anthropology and Archaeology, University of Pretoria

Schaapplaats, 19 March: ArchSoc members met Dr Sven Ouzman in the main square of Clarens, from where we drove to Schaapplaats Farm. From the homestead we walked to Schaapplaats Shelter situated on the banks of a tributary of the Little Caledon River. The site was viewed in the early 1930s by Prof. C van Riet Lowe together with a group of pre-historians who were attending a meeting of the British Association for the Advancement of Science. The cave is protected by a substantial wire fence and can be divided roughly into three panels. It is a National Heritage Site.

In the centre panel one sees a group of four therianthropes. These were not depictions of Phoenicians, as pronounced by the French pre-historian Abbé Henri Breuil in the 1950s, but of shamans partially transformed into animals. In this state, the shamans, being at one with the animal, were able to harness the potency of the animal and thus produce rain, improve hunting by controlling the movement of animals, relieve stress within the community, heal the sick, and so forth. The therianthropes here have grey rhebok heads, wear karosses and are variously carrying a bow, sticks and/or possibly arrows.



Sven Ouzman explaining one of the many panels of rock art we saw (photo: Reinoud Boers)

Close to the shamans is a group of beautifully painted eland facing both left and right. In the background are smaller eland, which appear to have been placed behind the larger eland. However, it is more likely that the larger animals were superimposed over the smaller animals. This suggests that the shelter is a particularly 'potent' site. A small group of rhebok appears together with a hunter who seems to be hunting and shooting one of the rhebok. It is unusual to see a depiction of hunting, particularly of grey rhebok, as it is known that they do not taste good.

The third area of depictions is in bright orange/yellow and rust colours. There are two orange antelope, one of which is an eland. Rust-red smears on the animals are difficult to interpret, although it has been suggested that one of these marks could be a supine human figure. To the far right is a painting of an eland encircled by chipping marks. At some stage someone obviously tried to remove this panel, hence the necessity to protect our valuable and easily destructible rock art.

Report by Noni Vardy

Geological talk: Subsequently members split for the delightful Sunnyside Guest Farm and De Molen, our accommodation venues for the weekend. We joined again for dinner and later geologist Jo de Beer gave us a talk on the geology of the Drakensberg. This mountain range within the Karoo Supergroup consists of sedimentary, metamorphic and igneous rocks. The basalt capping that covered the area only remains in the Drakensberg and Lesotho. Below this are found mainly hard or soft sandstone formations, in which caves have formed. Weathering occurs particularly in the soft formations. Siltstone layers intrude into the sandstone layers, producing dykes or sills.

Tepelkop, Avondzon and Caledonspoort, 20 March: This was a full day of rock art. In the morning we visited Tepelkop to see rock art images of a giant water serpent, a bolide or double-ended comet, eland, hartebeest, therianthropes and bees. This was followed by a visit to Avondzon where there was much to be seen, including four therianthropes almost identical to those at Schaapplaats, rain animals, alites, a medicine dance, human figures in procession and eland.

After a picnic lunch we drove down the Fouriesburg/Butha Buthe road to Wyndford Holiday Farm, which overlooks the Caledon River a stone's throw from the Caledonspoort border post to Lesotho. Here the Little Caledon cuts through a long krans to join the main river. We divided into two groups as the sites we had come to visit were too small to accommodate all of us at once. Proceeding along a wet, overgrown path, we came to a small overhang with paintings of mormyrid fish. Back in the 1940s, these rock paintings had been identified by the Abbé Breuil as dolphins. However, Paul Skelton and the late Humphrey Greenwood of the then JLB Smith Institute of Ichthyology unambiguously identified these fish as being mormyrids, a freshwater fish found in large, slow-flowing rivers as far south as the northernmost part of Kwazulu-Natal. Mormyrids are worthy of cognitive attention of the type that typifies the religious and symbolic rock art of the San since they generate an electric current and can shock people when touched. This 'shock' is an ideal natural analogue for San notions of supernatural potency, an essence that causes one to tingle.

The other site visited was a long, shallow overhang, completely hidden by the bush, containing several small roofless huts with walls of brick reaching almost up to the low rock

ceiling of the overhang. It was clearly a refuge site and the temptation, as so often with such sites, was to see it as dating back to the Mfecane period of the 1820s and 1830s. But mitigating against this, Sven said, was the fact that the walls were comparatively well preserved and had been constructed of brick instead of layers of dagga. They presumably dated either to the Basotho wars of the 1850s and 1860s, or to the Anglo-Boer War of 1899 to 1902, when Boer women and children together with their black farmhands are known to have hidden out in places like this to escape parties of British troops marauding in the region. ***Report by Anita Arnott***

Stories of Stone and Paint: In the evening, Sven gave a talk on the archaeology of the Upper Caledon River Valley (CRV). The valley is an important archaeological landscape. The Caledon and its tributaries are natural conduits for travel and contain evidence of a myriad of stories in stone and paint.

To date there is no unequivocal Early Stone Age (c. 3 mya to 300 kya). The first evidence of human presence in the CRV is from Twin Caves on the farm Schaapplaats, where Philip Harper, as part of Lyn Wadley's research programme into the eastern Free State Stone Age, excavated 850 stone tools from the Middle Pleistocene at around 200 to 250 kya. The area appears to have been sparsely populated until the advent of the Later Stone Age (LSA) around 22 to 25 kya. Gatherer-hunters ancestral to historic San were a strong presence during the Holocene, probably within the last few thousand years. There was extensive occupation of the rock shelters situated in the Clarens Formation, or 'cave sandstone'. The LSA contains great variability and avocational archaeologists played a prominent role in bringing the region's rich archaeology to public notice. The research started in 1851 with Thomas Barrett, followed by George Stow in the 1870s and Joan Hardin from 1950 to 1968. From about 1954, Neil Lee and Bert Woodhouse made the Caledon Valley the primary focus of their field trips. In the last 30 years, Lyn Wadley, Jannie Loubser and Peter Mitchell have added a great deal of detail, as has Amanda Esterhuisen.

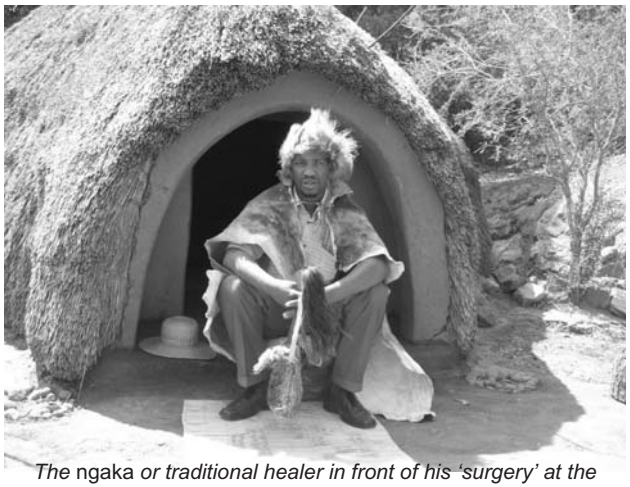
In the last 600 years two groups of people, herders and Bantu-speaking farmers settled in the area. The herders, perhaps Khoenkhoen, are represented by perhaps half-a-dozen finger-painted geometric motifs. They left little other visible material culture. A much more visible presence is that of the Sotho-speaking farmers during the Late Iron Age. They had good relations with the San and distinctive settlement patterns. They established Ntsuanatsatsi as their origins site. Its reed-lined pool and cavern was the place where Ntsuanatsatsi, the first Mosotho, emerged from within the earth. These communities radically altered the social and physical landscape. The threats became more pronounced in the last 200 years, when Europeans, especially English, French and German missionaries, began to settle in the CRV. The settlement was made possible in part by the Mfecane or 'shattering'. Farmer settlements changed from valley floors to defensive locations and many San abandoned the eastern Free State for farmer unfriendly regions further south. The 18th and 19th centuries were also the time that encouraged the formation of multi-ethnic raiding groups like the Korana, which were originally Khoi.

Most white farmers lived under the sufferance of King Moshoeshoe, who was forging the Sotho nation in the early 1820s, centred on the mountain refuge of Thaba Bosiou. The fledgling Free State Republic acknowledged Moshoeshoe's power for the most part, but the British did not. A long-ranging dispute and three Basotho wars culminated in the proclamation of Lesotho as a British protectorate in 1868. Almost all of Lesotho's arable land was annexed by Britain and then granted to the Free State Republic. This 'conquered territory' is still contested, with, for example, many Sotho pilgrims maintaining sacred sites on the South African side of the Caledon. Saltpetrekrans is a good example. ***Report by Reinoud Boers***

Basotho Cultural Village, 21 March: A scenic drive past massive golden sandstone buttresses led to the Basotho Cultural Village in the Golden Gate National Park. Here the group were to see the evolving architecture and experience the Basotho lifestyle, and their hospitality. '*Kgotso!* We greet you in peace, come stay with us, dance to our rhythm, sip our traditional beer, consult our *ngaka* (traditional healer) and come to the *lekhotla* (gathering place of men).' This was our welcome.

The village is arranged as a series of dwellings showing the changes in building style from the 16th century to the present. The first thatched rondavels had no windows and there was extensive use of thatching grass. With the advent of Europeans, windows were adopted, followed by painted wall decorations. Eventually the dwellings become rectangular with corrugated iron roofs. The walls inside and out become even more highly decorated. Calabashes and karosses gave way to enamelware and iron bedsteads. The interiors were imaginatively embellished. In the most recent homes, intricate shelving and even 'shelf paper' is fashioned out of clay, and china is displayed.

Our tour began at the chief's court, which is normally exclusively a men's area. Our guide called out to ask for permission to enter and the headman conveyed the message to the chief. Once permission had been granted, we entered the court and observed the chief and headman dressed in karosses and seated on rocks. Sorghum beer was presented, but this was first tasted by the headman to ensure that it was not poisoned. The chief then drank his portion before offering it to the assembled party. After initiation school at 18 years of age, men participate in this court and their problems are resolved here. We were shown a fireplace consisting of a circle of stones. If a man is found guilty of an offence, the fine of a sheep or a goat would be cooked here. If a headman dies, the Marabaraba game is used to determine succession. Ten men of good character are chosen to compete. When a chief dies, his senior adviser must die with him because the new chief would have his own household and confidants.



The ngaka *or traditional healer in front of his 'surgery' at the Basotho Cultural Village. He carries his all-important rabbit-skin bag (photo: Pamela Küstner)*

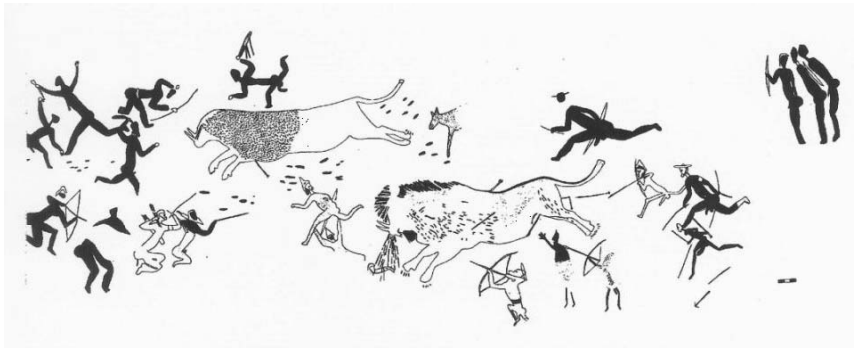
From the chief's court we moved on to the 'surgery', where the *ngaka* lives. He had sticks and porcupine quills stuck in the roof to act as lightening conductors and to keep bad spirits away. He showed us a rabbit-skin bag containing divining bones, shells and seeds. The chief's sleeping hut came next. It had a cow-dung floor and was furnished with a high chair and a thonged stool. We saw the ceremonial fly whisk and fur hat, and also the decision-making Basotho hat worn at court. The hide shields were shaped like swallows to encourage warriors to dive like swallows. Axes and barbed spears were a chilling sight.

Next door was the first wife's hut with storage silos outside. Within the walled area there was also a kitchen and a visitors' hut. We were told that girls stayed with their mothers until they were 10 years old. From then until marriageable age they attended a girls' initiation school, where they were taught by the grandmothers. Here we were offered women's beer, also made from sorghum but so weak that it is used for feeding babies. Moving on to the second wife's hut we saw an

example of a 17th century-style hut where western windows and wall decoration were evident. Here we sampled dry ground maize mixed with sugar, a sustaining food to be taken on a long journey, particularly by armies on the move. We then came to an 18th century cottage and finally a 19th century five-roomed dwelling consisting of a kitchen, sitting and dining-room, main bedroom and children's room. This was the most decorated and furnished building, and many items probably formed part of the bridal trousseau.

Before leaving we admired the colourful Basotho blankets for sale in the shop. Thick and warm, they are still manufactured with 90 per cent wool to keep out the winter chill. An affluent Basotho would own several blankets, chosen to suit different occasions, such as weddings, funerals, everyday use, work, etc. We left with a greater awareness of what it means to be a Basotho.

Coerland, 21 March: The large overhang of the Coerland rock art site is situated next to a waterfall. Although not densely painted, the images are most interesting. The cave has good acoustic qualities and dancing by firelight would have been very powerful. There are ashy deposits from old fires indicating that people would have stayed there. There is evidence of calcite and oxalate percolating through from the roof and running down the rock face. The paintings consist of a cluster of figures with elaborate arrow and bow bags. The figures show altered states. The two felines are thought to be lions, but they have tusks and the face of one of the animals has red lines linked with scenes of rainmaking. The tusked lions could be shamans in lion form, or they could be rain lions. Relevant to this is the Bushman belief that shamans in trance could take the form of lions with malevolent intent (Lewis-Williams, 1981: 95-97), reflecting the anti-social and sometimes violent behaviour of the shaman while in trance. ***Report by Pamela Küstner***

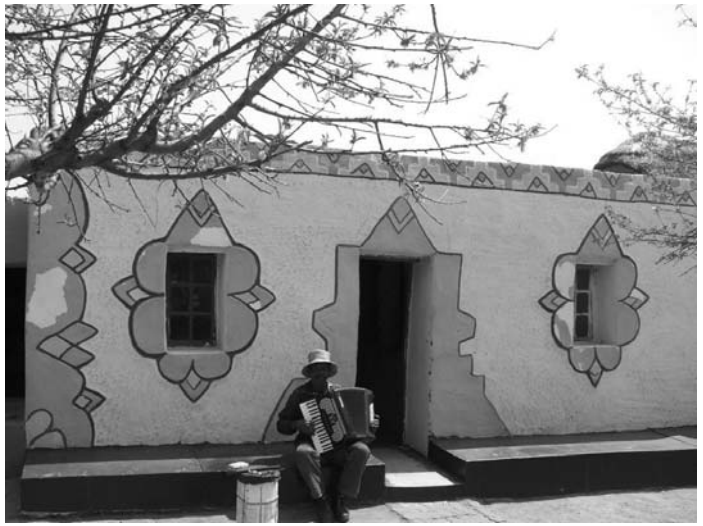


Tracing from the wonderful Coerland rock art site by Townley Johnson

Saltpetrekrans, 21 March: After a wonderful picnic lunch at Coerland, we departed for Saltpetrekrans. Unlike the other visits this weekend, I considered this a long walk to this sacred place of pilgrimage by people visiting traditional healers, Zionists and other charismatic groups. We walked under tall trees and through long grasses to get to the place, where we had to cross the fast-flowing Little Caledon River, which was not easy, but some of us managed. The cliff in which this huge overhang is situated is amazingly beautiful; it has a sense of peace and serenity that made me feel a chill down my spine, and that is when I realised that God is alive.

The most important things in people's lives are their culture and their religion. Different cultures and religions mix, but Respect is their priority. The people visiting Saltpetrekrans have different cultures and religions, but their only intention is respect for their ancestors. We were welcomed by Mr Lucas Erasmus from Kimberly who introduced us to other members and led us

One of the more modern, brightly decorated Basotho homes at the cultural village
(photo: Pamela Küstner)



the whole way. Mr Erasmus told us that he came to this sacred place in 2003 and that everyone who goes there has been called by the ancestral spirit. He was too and he will only leave when they release him.

At the entrance of the overhang there is a little wall. My guide explained that every woman, no matter her culture, who cannot bear children or has lost a child may stand in front of the pillar to pray for fertility and for her lost child. Afterwards they have to leave sweets at a table next to the pillar. Someone whose child has passed away is able to communicate with the spirit of their child at the table. All these explanations made me realise how important and valuable culture is, and that it is all about a person's belief. Far behind the children's table there is a small greenish, hut-like cave, which they say is a doctor's surgery. It is lit by candle and filled with letters. This, Mr Erasmus explained, is where everyone casts their problems. They write down their problems in a letter, light a candle, kneel down and pray for a solution to whatever problem they have written down. According to their belief it will come to pass.

Every church has an altar in the overhang. Even at the sacred place there is one which is naturally made too. Candles had to be lit throughout the day as it indicated the Light, Mr Erasmus said. Behind the altar is a small hole, which was explained as the ancestral place (the place of the gods). No matter who you are, your gods are in that secret place so long as one knows their last names. If you believe in them you light a candle, take a coin and pray. Since I was curious, I wanted to see exactly what was inside. Mr Erasmus accompanied me inside the secret place. When I got there I went blank as I did not know what to say, but at last I remembered a prayer I had learned in my childhood: 'Our Father, who art in heaven'. I wished I could stay there for little longer as it was so peaceful, calm and quiet.

There are so many illnesses, people are sick and in some cultures people believe that there is witchcraft that causes people to get a stroke, advanced diabetes (where you find part of the body mutilated – *sesipidi*), sore feet or hands hands, migraines, or stomach pains from food poisoning. Mr Erasmus led me to the site where such people dig for ash (*sewasho*) and apply it to that part of the body that is painful. If they believe, they will be healed. In my curiosity I applied the ash to my face: it was fun. In front of the site there were buckets filled with water. The water came from the rock. Mr Erasmus explained that they believed that the water cleansed impurities from the body,

healed the body and beautified the skin. One had to pray before drinking the water, which I did.

On the day of our visit there was a celebration by student doctors (sangomas) who had passed. There were seven of them and seven goats were slaughtered, so that each could drink its raw blood. The little kraal was said to be the court, where they braai the meat. Here women are not allowed to enter, but the table beside it was full of meat. Everyone there had been called by the spirit; they knew and believed in one thing, 'the gods'.

Visiting the sacred place was one of my best experiences ever. I felt like not leaving the place. It has a sense of peace and serenity, and hope. One leaves the place with faith, a trust that everything is possible, that God is the creator of miracles, all things alive. But I also realised that since the sacred place is being used by more and more people, there is an environmental risk, i.e. unsafe water, lack of sanitation and land pollution. Mr Erasmus mentioned that all Zionist churches were going to celebrate their Easter holidays at the sacred place, so just imagined what is going to happen if some 10 000 people visit the place without ablution facilities. In their minds they would think hiding behind rocks is an option since there is nowhere else to go. But with the river flowing just below the mountain, when it rains all the waste will flow to the river and this will lead to environmental risks. Everyone has to be educated on how to control and prevent pollution and waste.

Report by Phelina Mapula Segale, BA Environmental Management Student, Unisa

Surrender Hill, 21 March: The ArchSoc group checked out and drove to Surrender Hill, which lies next to the main road between Clarens and Fouriesburg. This was where, in July 1900 during the Anglo-Boer War, a large force of Boers who had been trapped in the Brandwater Basin, had to surrender to the British, hence the name. Local historian David Bunn, who has lived in the district for 12 years, told us the story. No detailed accounts have been published: he had pieced his narrative together, he said, from half-a-dozen books on the war, plus a conversation he had had with the dominee at Fouriesburg.

The story belongs to the second phase of the war, from early 1900 onward, when, after a series of initial defeats, the British had recovered the initiative and were advancing up the main railway lines from the Cape and Natal into the Orange Free State and the South African Republic (Transvaal). After the capture of Bloemfontein in March 1900, several large OFS commandos, accompanied by President Steyn, withdrew to the north-east. By July there were 7 000 Boers in the Brandwater Basin, where Fouriesburg is situated. Here they had plenty of water and good grazing for their horses and cattle, while the surrounding ring of hills made it difficult for the British to mount a direct attack. On the other hand, there were only four narrow passes through which the Boers could move their wagon trains. If the British moved to block the passes, the Boers would find it difficult to escape.

On 7 July the British captured Bethlehem and, after some delay, began advancing on the Boers in the Clarens-Fouriesburg area, aiming to pin them against the Rooiberg Mountains to the south-east. The delay enabled General de Wet, together with President Steyn, 3 500 men and 400 wagons, to escape over Slabbert's Nek in the north-west during the night of 15 July, and to make for Heilbron. Other commandos under Roux and Prinsloo failed to act on an agreed escape plan, largely because the two leaders bickered for several days over which of them was the senior commander. The slow-moving British, under Hamilton, Hunter and Macdonald, managed to close off all but one of the passes by 24 July. Numbers of Boers were able to make their escape through the Golden Gate pass to the north-east, on the Harrismith side, but the majority were trapped. On 30 July groups of Boers began making their surrender at what came to be called Surrender Hill. The process continued for several days. By 9 August, 4 300 men and large numbers of livestock had been captured. As the plaque at the Surrender Hill site tells us, the arms and ammunition given up by the Boers were destroyed there by the British: the bare patches where this took place are still to be seen. It serves as a reminder of one of the most serious setbacks suffered by the Boers during the war.

The Boers taken prisoner on this occasion were taken to Cape Town and eventually to Ceylon. After the war, some refused to return until the British order requiring the Boers to take an oath of allegiance to the British monarchy had been revoked.

Report by John Wright

Annual School
FROM TOOLS TO TECHNOCRATS

(24 October 2009)

Technology transfer: from handaxes to laptops

Professor Will Alexander, Emeritus Professor, Faculty of Engineering, University of Pretoria

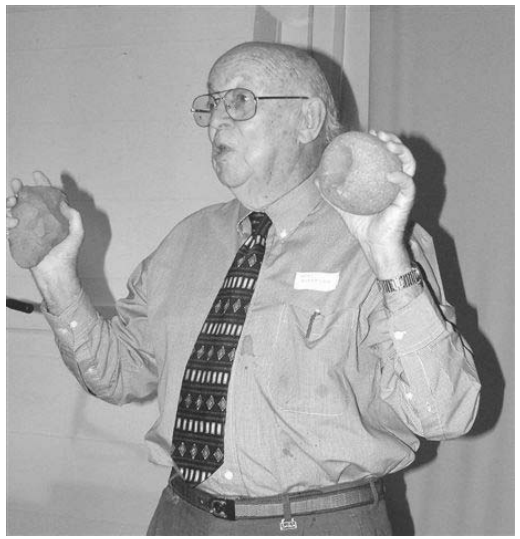
Professor Will Alexander expressed his delight at addressing us at the Annual School, as he had been a member of the Society since 1947. That was just over a year after he had been demobbed on his return from service in North Africa and Italy, and had recommenced his studies. Following his attendance at a demonstration by Richard Leaky, he applied for ArchSoc membership. In April that year Mrs Ples, described as an 'elderly female Sterkfontein ape-man', was discovered. He showed photos of well-attended Archaeological Society outings to Sterkfontein and Kromdraai in June 1947, and to a Magaliesberg Stone Age factory site two months later. The first present he bought after his marriage was the book, *Finding the Missing Link: An account of recent discoveries throwing new light on the Origin of Man,* by Robert Broom *(*price 8 shillings and 4 pence in 1950). In this, Broom recounted the problems he was having with the Historical Monuments Commission, as well as the difficulties he and others had when they were expected to submit their findings to British institutions prior to publication. Prof. Alexander said he had similar problems today with the South African climate change fraternity.

The start of the human species and how it progressed was still an open question. But the most important or basic question was when knowledge transfer began. If we could establish the date of the first knowledge transfer, then we would know the date of the start of human development, Prof. Alexander said.

Referring to a find of a beautifully made handaxe while with Prof. C van Riet Lowe at a Vaal River site, he said that stone tools had been designed by 'engineers'. The handaxe in question fitted comfortably in his right hand when held with the front side forward. He looked for an explanation of this 'right-handed' axe in a memoir by PC Sohinge and Van Riet Lowe on *The Geology and Archaeology of the Vaal River Basin*, but found none. The question was how intelligent the producer of the handaxe had been, meaning his natural intelligence as distinct from

acquired knowledge. Early human communities had structures based on interests and capabilities, and he believed in a difference between intelligence and knowledge. Intelligence was hardwired into the human brain, but how did hardwiring differ from species to species? He had a problem with the direct-transfer theory promoted by some.

Prof. Alexander then took us to Egypt and posed the question whether the modern architect could produce anything better than Egyptian temples such as Horus at Edfu. Next he addressed water-level observation devices dating from 5 000 years ago. From the beginning there was a need to observe year-to-year water-level variability, interpret the results and predict the future. This remained man's goal today. Secret passages connected to the Nile River allowed priests to observe water levels and predict the imminence of floods and droughts. The Romans also built wells connected to the Nile, such as at Kom Ombu. The number of steps lying under the water level in the well indicated which lands were inundated and could therefore be taxed. At the water-level gauging structure on Rodda Island in the Nile River at Cairo, which has openings connected to the river, water-level measurements made on a central pillar commenced in 640 AD and continue today, producing the world's longest flow record. In fact, this record was used for the design of the Aswan High Dam in the 1960s.



Professor Will Alexander: 'When did knowledge transfer begin?' (photo: Edmond Furter)

Prof. Alexander's references to the Hurst phenomenon and the Noah effect became rather technical, but basically these linked minimum sunspot activity with the highest floods ever recorded four to six months later. Examples were the Mngeni River flood in KwaZulu-Natal and the Loire River flood in France in 1856, events that had not recurred since. Another example was the Laingsburg flood in 1981, which had been an estimated ten times higher than normal. He maintained that the synchronous occurrence of the sunspot and flood events could not be coincidental.

Prof. Alexander closed with comments on mass psychology, referring to the 14-year-old prophetess Nongquase who in 1856 drove the Gcaleka Xhosa to virtual self-destruction by claiming that her ancestors had given her a message that all the people should kill their cattle and destroy their crops. Today, he said, climate alarmists were spreading the same type of message of doom. However, his studies had demonstrated that carbon-dioxide-emission fears were groundless. During the past century there had been a clearly discernable increase in rainfall over South Africa. Continued global warning, he said, would not pose a threat to water supplies, increase the risks of flood or droughts, increase the spread of malaria, adversely affect agricultural production, or result in the loss of natural plant and animal species, or in desertification. Prof. Alexander ended on the question whether modern climate alarmists had a greater cranial capacity than Mrs Ples.

Report by Reinoud Boers

Indigenous African metallurgy

Dr Duncan Miller, Honorary Research Associate, Faculty of Engineering and the Built Environment, University of Cape Town

Smelting as done by the indigenous people of Africa is a skill that has sadly been lost. Dr Duncan Miller told us that the last time indigenous iron smelting was reconstructed was in the 1970s in Malawi under the guidance of an old smelter who had since passed away. Iron smelting was introduced into southern Africa by Bantu-speaking farmers during the 1st century AD.

Much ritual surrounds the smelting of iron. A 'soup' made of some 50 different kinds of muti is drunk by all the participants, not only as propitiation to the ancestors, but also to marry the furnace, which now becomes a 'wife'. The furnace is always female. While smelting, no intercourse is allowed to take place as the 'baby' will abort. In other words, the furnace would not produce the 'baby'.

Iron smelting is a male activity and is therefore carried out away from the habitation area and behind barriers. The charcoal is collected by the women and a considerable amount is required to keep the furnace burning for at least two days at the required temperature. An entire side of a hill can be deforested in the making of charcoal. The draft furnace is made of clay and is about 1 m to 1,5 m high, and built in such a fashion that there is a natural flow of air. The art of air flow has been lost and has not been successfully replicated since the last attempt in Malawi. Pot or bag bellows were used to ventilate the fire through clay pipes, known as tuyères, inserted into the base of the furnace.

A temperature of 1200 °C is required for iron smelting. When the smelting process has been completed, the bloom, a conglomerate of nodules of iron and residue, has been separated from the clinker and clay furnace remains. When cool, the bloom is tapped with a metal hammer – if the residue contains metal it will give a 'ping'; if not, a clunk. The bloom will again be heated to a temperature of about 900 °C and hammered to remove unwanted slag.

Dr Duncan Miller: 'Sadly, indigenous smelting techniques have been lost' (photo: Edmond Furter)

Iron found at archaeological sites can be identified by origin because of its grain structure. The metal can also be 'fingerprinted' by determining its chemical composition. Iron from different areas has a specific composition. Duncan Miller than went on to discuss various Iron Age sites.

KwaGandaganda: As one of the earliest iron smelting sites, this site in KwaZulu-Natal was occupied for about 300 years from the 7th century. The site was flooded by the Inanda Dam.

Mapungubwe and K2: A considerable quantity of iron artefacts were found at K2, including spear and arrow heads, chisels and ornaments. A sweat scraper was also found, although Dr Miller

believes it more likely to be a pen knife.

Thulamela: Double iron gongs were discovered that are thought to have originated in central Africa. In addition, iron hoes, spear heads, etc. and copper in its raw state were found. Ceramic remains found at the back of the king's compound contain gold droplets, suggesting that this was a gold working site. Gold foil and gold tacks, similar to those found at Mapungubwe, also came to light. The technology used here was similar to that used at Mapungubwe.

The smelting of copper does not produce a bloom. Copper was generally smelted within a village. Copper has a lower melting point and formed into molten blobs in the furnace. The metal was smelted into bars and used to manufacture jewellery, such as. bracelets and beads. Bronze, an alloy of copper and tin, has been found at various sites. All the tin mined in South Africa comes from the Rooiberg near BelaBela in Limpopo province. Tin nodules were smelted together with copper in a crucible. Bronze was first found in Mapungubwe as fragments of a twisted bangle and a curved bar.

Dr Miller concluded his talk by saying that much research is required into the fingerprinting of metals so that the origin of metal remains found at an assemblage can be identified. This would help to identify trade routes and lifestyles.

Report by Noni Vardy

Spectacular vernacular: the Southern African rural dwelling

Professor Franco Frescura, Architect, Department of Communication, Culture and Media Studies, University of KwaZulu-Natal

Professor Franco Frescura provided an insightful perspective on the socio-historical background and the political dynamics that prevailed in southern Africa over the last hundred years. His lecture enabled us to gain greater understanding of the meaning and symbolism that is reflected in the homestead and settlement structure of the major cultural groups in region. Of particular significance was his discussion of the dynamic responses that had brought about changes in settlement structure, homestead architecture and wall decoration. (Note that while a more inclusive overview was presented in the lecture, this summary, freely paraphrased from Prof. Frescura's introductory notes, focuses largely upon his discussions of the Nguni-speaking people.)

Altered patterns, he pointed out, had been established at a time when all indigenous people saw the loss of their military and political power, they were dispossessed of their lands, whole families were placed into indentured employment on white-owned farms and the men-folk were channelled into a migrant labour system that separated them from their families for years at a time. This established some of the preconditions for the undermining of traditional patrifocal patterns and their replacement by elements of matrifocality. As a result, many elements of settlement that we today consider 'traditional' have been reduced to vestigial traces, barely recognisable from the historical roots of indigenous people.

Initially the indigenous homestead had been subject to a number of principles that governed the distribution of its constituent parts. Such principles may be interpreted to represent a cognitive and unspoken language that involves not only the social, political, economic, sexual, inheritance and religious values of the people concerned, but in many ways also acts as a mirror of their cosmological beliefs. The maintenance of inner order against outer chaos is given over to the men, who are able to communicate with the ancestors and, through them, are able to administer, rule and pass regulations. As a result, the inner space of a rural homestead, variously known as an *isibaya* or a *kgoro*, becomes the place of the men where they discuss group affairs, drink beer, administer laws, resolve disputes and commune with the ancestors. The central area is also associated with burial, the keeping of cattle, the group's wealth and the storage of emergency grain rations. Women are generally not admitted to this area.

The task of mediating between inner order and outer chaos falls upon the women, who control the residential space located about the central core. The real control of the homestead and its daily life lies in the hands of women, although its ownership, symbolically at least, lies with the men. In the constant daily struggle to retain the fine balance between 'order' and 'chaos', the two genders are perceived to be equal partners. The settlement orientation was, furthermore, guided by perceptions of 'right' as superior to 'left', where right is assumed to have an ascendance over the left, which is 'active' and 'aggressive', while the left is 'passive' and 'defensive', or alternatively 'centre' and 'perimeter', which may be translated into front and back.

Traditional Nguni domestic settlements have followed a circular pattern enclosing a central cattle byre surrounded by individual dwelling units. The cattle byre and, in some instances, the outside perimeter were demarcated by a palisade of timber logs. Variations of the Nguni settlement pattern among the Zulu, South Ndebele, Cape Nguni, Swazi and Tsonga were discussed by Prof. Frescura, highlighting conformity and suggesting explanations for deviations from the original Nguni pattern. He gave an outline of significant historical events and the geographical distribution of settlement and re-settlement, along with the broad symbolism attached to the main elements of the homestead. This included his views on the origin and symbolic significance of decorative designs. The gradual replacement of the hemispherical dome dwelling with the drum-and-cone-shaped homestead among Nguni-speaking groups was discussed. Prof. Frescura also indicated that, given the nature of Zulu grass architecture, builders did not initially develop a wide tradition of domestic decoration. Zulu crafters, for example, appear to have reserved their best work for those artefacts linked to the embellishment of architectural features and to the decorative qualities of domestic items such as baskets, wooden items, pottery and the polychromatic racks used to stack grass mats.

Aspects of the homestead and settlement design of the Ndebele were discussed with reference to historical developments. The Ndebele, he explained, had migrated from northern KwaZulu into the northern Highveld some 400 years ago, originally settling in the Wonderboompoort area, north of present-day Pretoria. Following attacks from the Matabele in 1825, they withdrew to an area north of Middelburg and Grobblersdal. In the 1840s they again found themselves under attack, this time from the Swazi, and consequently entered into an alliance with their northern neighbours, the Pedi. In 1882, following a leadership struggle among the Pedi, the Ndzundza found themselves drawn into a war with the Zuid-Afrikaansche Republiek. After a siege lasting some nine months, they were eventually starved and dynamited into submission. As a result, their lands were declared forfeit to the Transvaal Republic for settlement by whites. The surviving members of the tribe were broken up and allocated to the farmers as indentured labourers, a condition of virtual slavery. There were strong indications, Prof. Frescura said, that the polychromatic decorations that began to appear on Ndebele architecture during the 1950s were the result of their reaction to the alienation of their ancestral lands.

The basic form of domestic architecture used by the Cape Nguni also initially consisted of a hemispherical dome dwellings very similar in outward appearance to the Zulu dwelling. The inner structure, however, differed greatly. The interior basket surface was covered over with clay and plastered with a mixture of clay and cow dung. By the 1920s, the light roof structure was

Annual School convenor and chair Pamela Küstner (centre) introducing Professor Franco Frescura (right), with the technical team of Louise Mackechnie and Peter Mimmack ready to attend to the settings (photo: Edmond Furter)

being replaced with a more substantial conical timber framework, while the quality of the thatch cover had also begun to change. Whitewash was beginning to be used internally as well as for external decoration, usually around doorways and underneath the roof eaves. These changes, which began to appear in the 1860s, were probably the result of European missionary work, as well as the influence of trade schools, a number of which had begun to be established in the region in the 1860s in an effort to stabilise it politically and to bring its citizens into the local white economy.

The Swazi inhabit the southern area of Mpumalanga and Swaziland, from the Crocodile river in the north to the Pongola in the south, and from the Lebombo mountains in the east through to the south-central highveld in the west. Barring a few minor differences, the domestic architecture of the Swazi is akin to that of their southern neighbours, the Zulu. The Swazi homestead was seldom demarcated by an external perimeter fence and private spaces attached to the dwelling of each wife were shielded by a reed screen. The Tsonga, also an Nguni-speaking group, inhabit the eastern regions of Limpopo province and eastern Mpumalanga, as well as parts of neighbouring Mozambique and Zimbabwe. The name Shangana-Tsonga was derived from Soshangana, a general in Shaka's army who, together with a group of followers, broke away from the nascent Zulu kingdom in 1819 and migrated into Mozambique. Because many of these refugees were settled on lands under Venda control, they accepted Venda suzerainty and over the past seven generations have undergone a measure of cultural interaction with their Venda neighbours. This includes participation in Venda initiation rites, intermarriage and the adoption of a number of aspects of Venda material culture. Despite this, Tsonga architecture, most particularly their settlement patterns, has remained relatively true to its Nguni roots.

It seemed probable, Prof. Frescura said, that the origins of Tsonga wall decoration lie in the basic geometric patterns and leafy designs of the Venda. However, unlike their neighbours, who have retained their original earth hues moderated only by the occasional touch of red or blue, Tsonga women have begun to use a wide range of commercial colours. What is already noticeable is the use of electric pinks, blues and greens, which some observers have linked to the incorporation of the colours of multi-coloured shawls of Indian origin imported into the area by a local trader during the 1960s. These have now become broadly identified with the Tsonga and local women make extensive use of them as an indicator of marital and economic status. More recently Tsonga wall art has begun to include stylised images of everyday objects, most particularly watch faces. This could be linked to the building of new rural clinics in the region and the growth of a women's health movement. In many instances the clinics have become the focus of local women's groups, who meet on the appointed days and engage in social activities while awaiting the arrival of the District Nurse. The image of a watch is used to reinforce the teachings of the paramedics, who insisted that medicines need to be taken on a regular basis and that courses need to be completed in full. This is particularly important for patients suffering from tuberculosis.

Prof. Frescura concluded with insightful observations, indicating that much of the historical architecture was sustained through the apartheid era not by a wish to comply with the official idea of 'ethnic identity', but rather as a statement of group resistance to an oppressor. He added that since the establishment of democratic government in South Africa in 1994, most of the 'traditional' elements have begun to vanish. This was partly because official housing programmes had supplanted older dwelling forms, and partly because the political need for maintaining these statements of group identity and land ownership was disappearing. ***Report by Anna Steyn***

The triumph of healing

Dr Jaap Earle, practising neurosurgeon, Johannesburg

Dr Jaap Earl's lecture tracked the art of healing through the ages, starting with evidence suggesting that caring for the sick is as old as fossil evidence of early humans itself. Microscopic analysis of the distorted bones of an *Homo erectus* specimen showed that this specimen, dated at approximately 1,7 million years old, was suffering from hypervitaminosis A, or too much vitamin A. This individual, who would have been unable to walk and hence unable to acquire food independently, seems to have been fed liver by other members of the family group in an attempt to effect healing. The high vitamin A content of liver, however, exacerbated the problem, causing further damage to the bone.

More recent evidence of the art of healing from around the world can be found in both ancient writings and ancient bones. For example, documents from ancient China show diagrams of the heart and brain, from Roman times instructions have survived on how to perform cataract operations, and from ancient India there are diagrams of nose reconstruction (rhinoplasty) operations (ancient punishment in India involved cutting off an offender's nose). Skull bones from various parts of the world, some as old as 6 000 years, not only show evidence that portions of the skull have been removed, a procedure known today as trepanning, but also, based on evidence of bone regrowth, that individuals survived these operations.

Despite these early advances in healing, progress in medicine in the Western world was often hampered by religion and other forces that made it a taboo to a) challenge existing ideas and b) to dissect bodies to gain empirical knowledge of human anatomy. Early ideas about healing included Plato's notion that the soul resided in the brain and Aristotle's that it resided in the heart, a belief that was held until the 15th to 16th centuries. Only once the dissection of bodies resumed, often covertly, in the 1500s, significant advances were made in the art of healing. Pioneers include Descartes, who mapped the optic nerve, Wren, who mapped parts of the nervous system, Harvey, who showed how the heart worked and Willis, who mapped the brain. Willis found that all the nerves in the body went to the brain and concluded that the brain must influence thinking. A hundred years after Willis, Gall introduced phrenology, the notion that different parts of the

brain control different attitudes and abilities. Although Gall's mapping of brain function was based purely on speculation, subsequent studies show that different parts of the brain do control specific functions. Later researchers have found that the human brain becomes more convoluted as the foetus develops in the womb and that the human brain is more convoluted than the brains of other species.

Modern medicine now focused on how changes and aberrations that occur on a cellular or even molecular level cause disease, Dr Earle said. This information is used to design more effective treatments. For example, drugs that block neuron transmitters in the brain are used to alleviate the symptoms of migraines. Environmental factors that cause chromosomal mutations have been identified and faulty immune responses that result in diseases like cancer and diabetes have been isolated. These developments suggest that modern medicine is on the brink of ultimate knowledge about the human body and disease, and that, at last, the path to rational therapy is now open.

Report by Louise Mackechnie

The ancient world's tools of war

Hamish Patterson, Curator of Ordinance, Museum of Military History, Johannesburg

Mr Hamish Patterson opened his talk with an explanation of why man needed to focus his brainpower on weaponry. Early man was defenceless against the superior 'armoury' of lions and tigers – 'one swap and you were archaeological evidence' – and thus weaponry was essential to survival and was thus worthy of the concentrated study that was devoted to it. Original weapons would have been made from wood, later to be enhanced by the greater force of stone. In fact, in Central America, unlike elsewhere, no metals were ever used in weaponry. The state of the art there was a wooden club with obsidian blades. The discovery of how to work metals was rapidly applied to the enhancement of weapons and, needless to say, the waging of war. The first metal dagger was made circa 6 000 BC.

So we had the throwing spear, the sword and, to a lesser extent, the bow and arrow with which to counter cavalry. In the early stages a horseman had merely a cushion for the rider – no saddle and, more important, no stirrup. Cavalry which, before the Huns, would have comprised the aristocracy because each rider had to provide his own horse, dominated the battlefield until the Greek hoplite phalanx appeared. Their equipment consisted of a specialised long spear (*mantissa*) and the hoplite shield, along with a bronze helmet and a composite cuirass. The hoplite shield, in particular, was a major breakthrough as it was easily carried and held while fighting, but additionally served as 'a proprietary and corporate identity'. The military success of Alexander the Great can in part be attributed to the effectiveness of the weaponry of his infantry. It is conceivable that the rise of the infantryman's status, as compared to the aristocratic horseman, may have contributed to the rise of democracy. The Romans adopted a similar technique. The other major 'Tool of War', invented by the Phoenicians and perfected by the Greeks, especially the Athenians, was the trireme warship. It was the dreadnought of its day: 40 m long, 6 m wide and with a speed of nine knots. The trireme enabled Athens to be the pre-eminent naval power in the Mediterranean. Their supremacy came to an end at Actium with the defeat of Anthony and Cleopatra by Octavius.

Returning to land warfare and its tools, the chariot brought the horse back into the ascendant. Initially in Mesopotamia, early struggles were battles between carts, but, as always, refinements were made, especially in the construction of the wheels. These started off as being of solid wood, followed by cross-bracing and finally by spokes. A further development occurred in the axles, which in Napoleon's army were of iron, but by the First World War had developed to steel and brass. The rise of the horseman was significantly influenced by the invention of the saddle and stirrups on the Asian steppes, resulting in the 'Mongol Hordes' overrunning much of the Middle East and eastern Europe. The stirrup enabled a horseman to stay in his saddle while withstanding blows, firing his bow or striking with force with his lance. At the same time the Huns developed the bow as a potent weapon. Instead of the typical rigid European bow made of wood, the new bows were made of a composite of bone, horn and animal sinew, making it an extremely efficient storer of energy and providing strength, flexibility and power. As a result of this technology, combined with a savage approach to life, the bow and arrow became the 'Scourge of God'.

The growth of cities with sturdy walls required further innovation in weapons on the part of aggressors. Simple ramps and mining were initially popular, with the Greeks using slaves to do the mining. The Assyrians and Babylonians were probably the first to employ battering rams. More sophisticated were the siege towers, which served until gunpowder arrived on the scene. Many innovative slings were later employed to batter city defenders. They used torsion with counterweights to produce energy and could fire a projectile up to a distance of 200 m. The sling was the predecessor of artillery. One of the more innovative and potentially useful ideas was an inflatable ladder. A design appears in a Byzantine military manual, but there is no evidence that it was ever employed.

In conclusion, and perhaps to emphasise the inhumanity of war, Mr Patterson showed an illustration of a three-pronged caltrop designed to maim horses.

Report by John McManus

Hamish Patterson: Original weapons made from wood were quickly followed by increasingly sophisticated weapons (photo: Edmond Furter)

Steam, stations, slums and suburbs in Victorian London

Professor Keith Beavon, Urban Geographer, Universities of the Witwatersrand and Pretoria

Professor Keith Beavon illustrated how the development of technology in the form of trains and transport in England impacted on the lives of people, particularly the poor. Steam locomotives were invented in 19th century England and the first public 'train' to carry passengers ran from Stockton to Darlington in 1825. Transition from George Stephenson's simple Rocket of 1829 to the modern steam locomotive over the next 100 years was dramatic.

The difference between a steam engine and a steam locomotive is that steam engines were stationery and steam locomotives had to be propelled. There was already another form of rail-

based transport, namely wagons on rails drawn by mules. The first rail-based, self-propelling steam engine made its appearance in 1804. The Puffing Billy operated from 1814. In this case, the water in the cylinders was heated, which powered the camshaft around. A cogwheel drove the driving wheels. On the first journey of the Rocket, 40 000 people came to watch. It moved at 8 mph and the wheels were driven by pistons, set at an angle of about 45 degrees to the wheels. Various improvements were made by Stephenson and in 1830 The Planet was constructed. In this instance, the pistons and cylinders were placed horizontally, and the engine had a large funnel on the front. But the locomotives were not very powerful. They could pull 67 t on the level, but only 15 t up an incline of 1 in 100 and much less on a 1 in 12 gradient. Consequently it was necessary to lay the tracks on a straight and level route.

The Royal Scot, which first ran in 1862, is representative of the modern locomotives. Significantly, on such locomotives, the cylinders were always mounted horizontally and on the outside and not the front of the locomotive. The wheels were in a 4-6-2 arrangement known as the Pacific type and built for speed. Four small bogey wheels were followed by six linked driving wheels and then another two bogey wheels beneath the cab. The exhaust steam from the cylinders went directly up the funnel, creating a draught in the smoke box, which in turn drew the heat of the fire through the long boiler. Prof. Beavon also referred to the 'singles' of the Great Western and Great Northern Railways in the 1870s, which had a single pair of eight foot driving wheels and could pull a train at 70 mph. The drivers could not see anything and relied on inspectors to check the track.

Construction work for the railways entailed making cuttings and embankments, viaducts and tunnels to keep the tracks level. It required a great deal of skill to build such tracks over long distances. The expertise for this already resided with civil engineers who had constructed the canals and locks that preceded the railways. Consequently, the railways gradually absorbed many of the workers who had constructed the canals, known as navigators (navvies). Thousands of the navvies were used to dig tunnels and cuttings and use the cut-away material to fill the dips and hollows. Most of the main railway routes in Britain today make use of these same routes. Some of the same tunnels and cuttings survive even today.

Britain led the world in railway development. Because of the speed of trains and the volume of traffic, it became important to work out train timetables. All stations became grand affairs, such as St Pancras, built in 1868. Euston Station had huge columns on the outside that were later pulled down. Kings Cross was built in 1852 in Italian style. Stations were places of great prestige. They all had voluminous roofs, sumptuous hotels and smart administration offices.

While it was all very well having achieved greater speed, this increased the difficulty of stopping the trains. The problem was how to get the brakes to function more effectively. Brakes on the locomotive functioned well, but the wagons attached to the locomotive developed a momentum of their own. So engineers worked out how to fit brakes to the rolling stock as well. They also raised the approach gradients to stations to assist trains to stop, while there was an associated decline to assist trains to start off again. The platforms were sometimes built up on ramps, up on the first floor. This was fine for stations en route, but not so good for terminals, where trains sometimes went through the buffers. Prof. Beavon treated us to a picture of an engine part-way through the wall of a station high above an adjoining road. There is a universal two-word term to describe the resulting situation! At Kings Cross the platforms were at ground-floor level because the approaches to the platform were along tracks that had been lowered to go below the Union Canal.

Railways to and from London were springing up at a rapid rate in the 19th century. The railway companies were privately run and were in business for profit, with all the skulduggery that went with that. Along the length of London's Marylebone and Euston Roads five of the city's great railway stations were constructed after the approaches had been pushed through cheap land occupied by working-class people. The railway companies obtained Parliamentary approval to expropriate property as required. The centre of London in the 1870s was virtually unchanged from Tudor London. When the railway schemes began to impinge on St Paul's, it was realised that contracts were needed with the railway companies, which already had nine stations within no more than half a mile of St Paul's. In the process of expanding the railway network, many houses were taken down and many people had to move further out. For St Pancras Station alone, 20 000 people were moved. All in all, 56 000 people had to vacate their houses between 1850 and 1870. These were poor tenants, not property owners, and they received no compensation. They did not get better houses and they now had to travel long distances to their old jobs. As slums were cleared, so new slums were created. Many of the poor slept under bridges and under the arches holding up the embankments. The term 'forced removal' resonates here.

The railways created congestion on the roads as people tried to get to the stations and in 1830 the idea of an underground to link the stations was born. By 1863 Paddington, Kings Cross and Farringdon had been linked. The tunnelling system was excellent and although there were vents for the smoke of the engines, they could not cope with the steam and dirt, and the atmosphere in the tunnels was choking. The system of surface and underground trains was supported by a bus system. On the opening day of the underground between Baker Street, Paddington, Euston (Kings Cross and St Pancras) in 1863, 38 000 people used the service.

The railways did marvels for property values. Even in Hastings, for example, an acre of property worth £300 in 1849 increased to £1 000 by 1879, although Hastings is almost two hours from London by train.

Report by Felicity Eggleston

The active book table at the Annual School
(photo: Edmond Furter)

Chairman's report for 2009/2010

Annual General Meeting of the Trans-Vaal Branch (20 May 2010)

Pamela Küstner, Chairman of the Trans-Vaal Branch of the SA Archaeological Society

Professor Huffman, members and friends. It is my pleasure to present the Chairman's Report for the Trans-Vaal Branch of the South African Archaeological Society. The year under review, from June 2009 to May 2010, has been characteristically busy with a full programme of lectures, outings and tours. We have enrolled new members, supported academic endeavour and extended our committee. It has been a lively year!

The society aims to bring together amateurs and professionals to promote archaeology. This is our core business and I believe that we have been successful.

During the past year there have been 10 evening lectures, all well attended:

1. We received new information on the distant ancestry of mammals from Bruce Rubidge.
2. Eighty thousand years of rock art history in South Africa was eloquently described by Ben Smith.
3. Natalie Swanepoel told us about her experiences while researching the slave trade in Ghana.
4. Mike de Jongh shared his intimate knowledge of the Karretjie people of the Karoo
5. Geoff Blundell spoke about the less well-known rock art of Nomansland.
6. In November we encompassed palaeobotany by inviting Marion Bamford to tell us about the fossil plants found at early hominin sites.
7. The year 2010 began with a key presentation by Ben Smith when he spoke about the re-origination of *People of the Eland* and the publication of *The Eland's People*. The book table was inundated with sales after the lecture.
8. In March we were delighted to host the Society's president, Judy Sealy. She stimulated us with discussion on theories of the archaeology of the last 100 000 years in southern Africa.
9. In April, Trefor Jenkins brought us recent thinking on the genetic puzzle of the Lemba.
10. And tonight, Tom Huffman will be reporting on his current research interest: climate change.

Outings, of which there were six, remain popular, and are usually fully booked with a waiting list.

1. Morris Sutton led an outing to Swartkrans, the famous hominid site excavated by our patron, Dr Bob Brain.
2. Graham Reeks guided us around Olifantspoort, the large Iron Age site originally excavated by Revel Mason.
3. Sian Tiley-Nel of the Mapungubwe Museum showed us the newly restored golden feline and bovine, and told us about the recent conservation project.
4. Stan Kantor led a walk at Nkwe near Pretoria to look at Boer war relics.
5. Vincent Carruthers led an excursion to historic sites in the Magaliesberg.
6. Cullinan was the venue for our end-of-year outing where we did a surface tour and explored the historic village.

Those wanting to explore further a-field were catered for with four weekends away. In June, Sidney Miller led a tour to Iron Age sites in Limpopo, notably Thulamela in the Kruger Park. Who can forget walking through the bush past giant baobabs to experience the majesty of the stone-walled citadel? In September, a group led by Anna Steyn visited rock art sites in the Drakensberg. Sites near Mweni and Cathedral Peak were visited and discussed in detail, and the tour concluded with a visit to the new rock art museum at Didima Camp. In March, members took a second rock art tour, this time with Sven Ouzman to the Clarens district. The autumn air, flowering cosmos and sandstone cliffs set the scene for walks to rock art sites that were of high quality. Most recently, a weekend was spent at Botshabelo near Middleburg, led by Anna Steyn. This mission station with its fine stone walling and substantial church was established by Alexander Merensky of the Berlin Mission Society. His son Hans Merensky, the famous geologist, was born there. Participants were awestruck by the industry and fortitude of these pioneers.

The Trans-Vaal branch continues to offer members unusual and adventurous opportunities. In April, Reinoud Boers led 16 members on a 21-day tour of Iran. Participants visited around 90 sites and returned entranced by the archaeology and cultural richness of Iran. Reinoud will report back at the November meeting.

In October, the Annual School took place with the theme 'From Tools to Technocrats'. Members learned about engineering, indigenous African metallurgy, rural architecture, methods of healing, warfare, industrial development and Chinese ceramics. The day of lectures was followed by a Sunday branch at the home of Reinoud and Marion Boers.

This very lively programme depends on the support of the diverse specialists who generously share their expertise with our members. I particularly acknowledge the unstinting support of the academic communities of Wits University, Pretoria University and Unisa, as well as freelance professionals. Without them there would be no ArchSoc. Requests for help are always met with warmth, enthusiasm and co-operation and I can honestly say that I have never been turned down. Thank you all, you are the corner stones of our society and we are truly indebted to you.

In addition, the branch is loyally supported by senior academics who give their patronage and advice, thereby ensuring the quality of the branch. Our patrons are Dr Bob Brain and Professors Tom Huffman, David Lewis-Williams, Bruce Rubidge, Francis Thackeray, Lyn Wadley and Jan Boeyens. This year, Professor Karim Sadr was invited to become a patron. Links with our national body are maintained through our representative on Council, Dr Janette Deacon, who is in regular contact with us. I thank her for looking after our interests and for keeping us informed.

Behind the scenes, the funding of annual grants for archaeological research and education continues to be a worthwhile initiative of this branch. The small profit derived from outings, the Annual School and book sales is used for this. During the year under review, Dr Antonieta Jerardino of the University of Cape Town received a grant to be used for the radiocarbon dating of marine shell. A research article will be submitted to *The Digging Stick*. Recently, the van Riet Lowe prizes were presented to Maria Lazarides and Benjamin Saccaggi at a Science Faculty prize-giving held at Wits University. Awards to Caroline Booth of UNISA and Tobias Coetzee of UP will be presented tonight.

This very active society is propelled by a dedicated committee. The combined effort of this team drives the programme we offer and I thank you all for your friendship and involvement. We have –

- **John McManus**, our treasurer, who keeps a firm grip on the finances. His business background and balanced judgement is a great asset.
- **Reinoud Boers** runs an incomparable mobile archaeological book shop. In addition, he edits *The Digging Stick* and *Artefacts*, and maintains our language quality.
- **Anita Arnott** takes bookings, collects money, puts up banners and supplies ideas (there is

nowhere she has not been).

- **Noni Vardy** helps by arranging tours and speakers.
- **Anna Steyn** publicises our events in the media and comes up with creative suggestions.
- **Gerry Gallow** is our star organiser of food and drink. With her team, she runs the T-table at meetings and the catering at the Annual School.
- **Felicity Egglestone** carefully minutes our very talkative meetings and reminds us of our tasks.
- **Louise Mackechnie** and **Peter Mimmack** are invaluable in attending to the technical needs of the speakers.
- **Marianne Miller** has been handling membership affairs and sending out bulk e-mails.

Two other committee members were recently co-opted onto the committee to fill a need: Justin Pargeter, who is our Wits representative and a Master's student at the Institute for Human Evolution, and Graham Reeks, an archaeologist and former mechanical engineer who brings much needed skills to the committee. Thank you all for doing a great job and for the friendship which we share.

As my term of office as chairman concludes, I thank you all for your participation: the patrons, the lecturers, the excursion leaders, the committee and, of course, you the members, all of you who form the rich tapestry of ArchSoc. Your participation and enjoyment make everything worthwhile.

In memoriam: David Panagos

David Panagos, who passed away in July 2008, was associated with the Trans-Vaal Branch of the SA Archaeological Society for many years and served on the branch committee in the 1980s.

David was born in June l929 to Christo Panagos of Greece and Edna (nee Elliott) of Pretoria. After completing his schooling, he joined the Active Citizens Force and became a signaller. He worked at the SABC, the CSIR, Olifantsfontein satellite tracking station during the moon landings, and at Iscor Research before joining the Transvaal Museum. He was married to Ann (née Moore), had three children and later studied palaeontology and archaeology at Unisa.

David had a great general enthusiasm and was always willing to share his knowledge with ArchSoc. The Anglo-Boer War was his special interest and he led members on fascinating outings to Smitsnek, Silkaatsnek, West Fort, Skanskop, Klapperkop and Wonderboom Fort. During an outing to Fort Anderson with Prof. Ian Copley, David gave an illustrated lecture on blockhouse fortifications. His knowledge of military history was vast and a lecture on the Trojan War gave members a marvellous insight into Greek mythology, Homer's *Iliad* and archaeological finds at Troy. At the Transvaal Museum, David and Prof. Francis Thackeray would treat members to a viewing of the Museum's fossil collection, including the Mrs Ples.

We remember David for his knowledge and enthusiasm, his keen sense of humour and infectious laugh, and his commitment to everything he did. He is being sorely missed by many friends in the Trans-Vaal Branch.

Jo Earle