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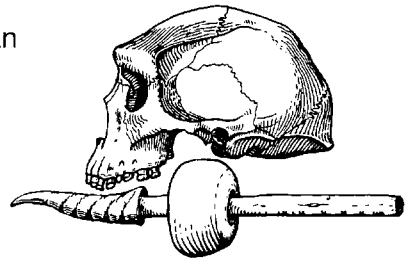

The Digging Stick

Our first new larger edition of THE DIGGING STICK offers readers an even greater variety of subjects for enjoyment and deliberation. Some of our previous articles have motivated readers to offer their views and comments. The article on bored stones by Dr C.A. Hromnik in our last issue prompted a lively response and some contributions to the debate are included in this edition. I hope that more readers will make their views known on the subjects discussed in THE DIGGING STICK or on any other points of interest they would like to raise.

The next issue of THE DIGGING STICK will be September 1985, and your contributions should reach the editor by mid-July. At the beginning of this year the editor moved back to Windhoek. Her new address is P O Box 9455, Windhoek, 9000.

BORED STONES – FIRST HAND EVIDENCE ON RECORD

M L Wilson

As a supplement to the editorial comment on Dr Hromnik's article on the so-called !kwe stone in the September 1984 issue of THE DIGGING STICK, Dr Hromnik might like to know that there is other first-hand evidence of the use of bored stones.

On 2 March 1812 William Burchell, who was travelling along the upper reaches of the Orange River in the vicinity of present-day Hopetown, recorded that the wife of Kaabi the Bushman carried, amongst other things, "three sticks about five feet in length, used either for assisting in walking, or for digging up the wild roots she might happen to observe on the way". Later in the same entry Burchell records the visit of two 'natives' ~~(probably Bushmen), one of whom carried "what my~~ hottentots called a graafstok (a digging stick), to which there was affixed a heavy stone to increase its force in pecking up bulbous roots. The stone, which was five inches in diameter, had been cut or ground, very regularly to a round form, and perforated with a hole large enough to receive the stick and a wedge by which it was fixed in its place". This digging stick is illustrated at the end of the chapter and also figures in the view of a Bushman kraal (W. J. Burchell, 1824. Travels in the interior of southern Africa. Vol. 2: 26, 29-30, 45, plate 4. London: Longman, Hurst, Rees, Orme, Brown & Green).

It is of some interest that the digging sticks carried by Kaabi's wife did not have a stone weight (was it perhaps in her shoulder bag?) while that carried by the man did. Interesting, too, to have a record of the collecting of plant food by a man, this usually being considered women's work (P. Kolb, 1738. The present state of the Cape of Good Hope. Vol. 1:162. London: W. Innis & R. Manby. See also R. B. Lee's book The !Kung San: men, women and work in a foraging society published in 1979 by Cambridge University Press).

Bored stones vary considerably in size and weight and it is probable that not all were used as digging stick weights, but Sparrman's and Burchell's observations, made at different times and in different places, provide clear evidence that some were.

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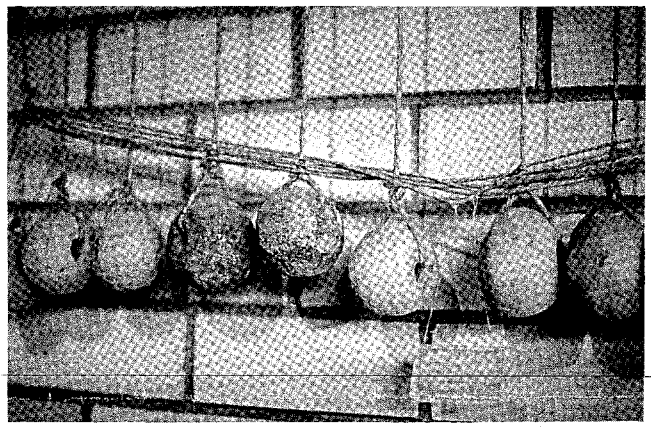
BORED STONES USED BY PRIMITIVE WEAVERS

D L Milne

I was most interested in Dr Cyril Hromnik's comments on the !kwe stone in the September 1984 issue of THE DIGGING STICK because I was surprised to see similar stones exhibited in a museum in Israel. These bored stones were used by primitive weavers to weight the woof. A very similar system is used by the Sotho today in making their reed mats, only the bored stones have been replaced by plastic cool-drink bottles filled with sand.

Westfalia Estate (Pty) Ltd, P. O. Box 14
Duiwelskloof, Northern Transvaal



This depiction of a primitive weaver's loom comes from Israel. Note the large bored stones used as weights for the woof.

BORED STONES

N J van der Merwe

I have personally seen a digging stick with bored stone from Ethiopia, collected near the city of Harar by an anthropologist friend in the 1960s. The stone was very heavy indeed, probably 5 kg if memory serves, and the tip of the stick was clad in iron. The stick was about 1,5 m long and about 50 mm thick. The artefact was made at that time and used as an all-purpose digging tool, including for planting seeds.

In about 1910 a San woman worked on a farm in the Graaf Reinet district and regularly used a digging stick with bored stone weight to gather roots and tubers. She was accompanied on her expeditions into the veld by the farmer's young daughter, my mother. If anyone would like to suggest that this information was the response to a leading question, they should meet my mother.

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Rondebosch, 7700.

SOME COMMENTS ON BORED STONES AND DIGGING STICKS

Bert Woodhouse

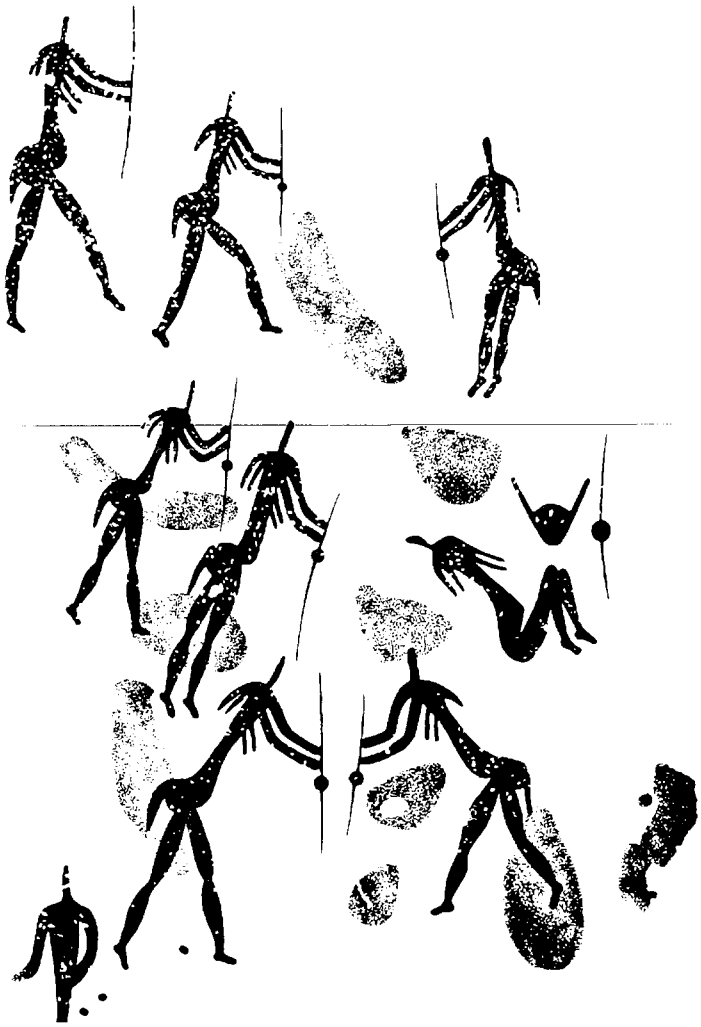
Dr Hromnik need not be surprised that Dr Bleek's informants did not mention digging sticks weighted with bored stones. Like the present-day Bushmen in the Kalahari they did their digging in soft ground so did not need weights. Those on the eastern side of the sub-continent dealt with harder ground so needed the weights which are so frequently depicted in the paintings from that area.

People who had the skill to make ostrich eggshell beads and effective poison arrows would have had little difficulty in coping with the technology necessary for boring and shaping the weights for digging sticks. G. W. Stow, in his book The native races of South Africa, published in 1905 by Swan Sonnenschein, describes how they did it.

Shortly before his death at a comparatively early age, Mr D. J. Esterhuyse of the National Museum in Bloemfontein completed a thesis on the phallic aspects of various stone objects, including bored stones. Presumably a copy of this work is available at the museum.

In addition to the picture of digging sticks in use reproduced from Pat Vinnicombe's book (the original of which may be seen in the Durban Museum), there is also a picture of digging sticks in use reproduced from Sebaaieni's Cave in Harald Pager's book Ndedema, and most books on rock paintings include digging sticks being carried or laid aside during dancing, as for example in my Bushman art of southern Africa, plates 57 and 65. I agree that such paintings do not prove that the people depicted actually made the weights but am hopeful that Dr Hromnik will pursue his research to the point where he can give us a balanced, not weighted, view.

1 Buckingham Ave, Craighall Park, 2196.



Bushman women working with digging sticks weighted with bored stones. From Harald Pager's book Ndedema.

LITTLE-KNOWN REFERENCE TO PLEISTOCENE FOSSIL HUMAN FOOTPRINTS

C K Brain

Since reports of well preserved fossil human footprints are very rare, readers may be interested in an account that appeared some years ago in an obscure journal virtually unknown in South Africa. A copy was recently sent to me by Mr J. C. Loock of the Geology Department at the University of the Orange Free State in Bloemfontein, to whom I am much indebted.

The paper, by F. Ozansoy of the University of Ankara, is entitled "Pleistocene fossil human footprints in Turkey" and appeared in 1969 in the Bulletin of the Mineral Research and Exploration Institute of Turkey, Vol. 72:146-150. The footprints, representing the tracks of two human individuals and a smaller animal, possibly a dog, were preserved in volcanic ash or tuff on a volcanic cone known as Cakallar Hill in western Turkey. The age of the deposit is thought to be a little less than 250 000 years. According to Ozansoy the footprints, which are well illustrated in the paper, show primitive characteristics such as widely separated toes and a fifth toe which is strong and massive. Anyone wanting a copy of this paper is welcome to write to me.

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ARCHAEOMETRY 84

L Jacobson

During May last year I attended the Archaeometry 84 symposium held at the Smithsonian Institution in Washington D.C. The meeting brought together about 100 people from various disciplines and the resulting papers consequently covered a diversity of subjects such as authenticating early Italian Renaissance panel painting, the analysis of Limoges enamel, stable isotopes, metallurgy and provenance studies. I presented two papers of which I was co-author. One dealt with PIXE and PIPPS analysis of pottery and clays as well as an attempt to authenticate Woodstock glass, while the second paper dealt with correspondence analysis and how it can be used to simplify, and hence increase our understanding of, large data sets. For our examples, I quoted the analyses made on trace element data as well as a body of rock art data which I had accumulated from the Tsisab Valley, Brandberg. The first analysis showed how it is possible to cluster one's results into meaningful groups which can be simply and graphically displayed together. The second example showed how the various animal motifs in the art were responsible for the sites clustering into three types: firstly giraffe, then springbok, ostrich and gemsbok, and finally other animals.

It would be difficult to list all the excellent papers that were presented. Most interesting perhaps were those dealing with stable isotopes. Two authors, De Niro and Krueger, provoked some heated exchanges over whether strontium isotopes can be used to reconstruct diet, De Niro maintaining that they have been scrambled in the ground, whilst Krueger held the opposite view. Some interesting comments on radiocarbon were also made. For example, the analysis of bone collagen can lead to spurious results. Also, analysis of bones from individuals who have suffered nutritional stress during their lifetimes can yield misleading results due to physiological changes.

Another paper which I found interesting dealt with the nature of the rock art at Lascaux. The writers conclude their investigation by suggesting that the murals are more characteristic of drawings than paintings.

The symposium was a tremendous success and the magnificent banquet held in the Space and Air Museum helped to make an impressive and stimulating experience all the more memorable.

State Museum, Windhoek.

NEW EXCAVATIONS IN THE BRANDBERG PROVIDE CLUES TO THE AGE OF THE ROCK PAINTINGS

Peter Breunig

For more than twenty years the Institute of Pre- and Proto-history at the University of Cologne has conducted archaeological researches in South and South West Africa, the work being financed by the German Research Council (D.F.G.). The earliest projects to be sponsored by the D.F.G. were the rock art investigations by E. R. Scherz in Namibia and G. J. and D. Fock in the northern Cape, and the archaeological excavations by W. E. Wendt in Namibia

The Institute is now focusing its attemtion on the Brandberg, Namibia's highest mountain. In 1977 Harald Pager was commissioned to document the rock art sites of the Brandberg in detail. At that time it was estimated that there would be some two or three hundred sites, but Pager's researches have revealed over a thousand. He is drawing site plans and tracing all the paintings encountered, thus carrying out one of the most intensive and meticulous rock art studies of our time.

Further work on the Brandberg, namely archaeological excavations with the aim of retrieving samples of dateable paint and of elucidating the stratigraphy of cultural remains, was conducted by myself in November and December 1984.

Excavations were undertaken at four sites of the upper Amis Gorge: in the Riesenhöhle, Gebhardt Shelter, Lufthöhle and site A 11. The most conclusive results were obtained from the 1,5 m deep sediment in the Riesenhöhle. Here, close to bedrock, coarse flakes and blades of presumed early LSA manufacture were found, while all upper strata, including the surface layer, yielded typical LSA artefacts such as segments, thumbnail scrapers, microlithic points, ostrich eggshell beads and shale pendants, but no ceramics whatsoever.

Most remarkable among the finds were numerous fragments of granite which had exfoliated from the painted ceiling of the shelter and still carry traces of pigment. One of these platelets fitted precisely its place of origin; it depicted the chest of a stooping human figure and could be joined to the legs and abdomen which had remained on the rock face. It was recovered from the contact zone of a pit which intersected a layer of ash.

All painted fragments were retrieved from the upper strata of the deposit, providing an initial clue to a relatively late and short period of artistic activity. Some of the many organic remains found in the same strata will provide radiocarbon dates which should reveal the time of exfoliation of the paintings.

Paint fragments were also recovered in the other investigated sites, raising hopes that further dateable samples of this kind can be found on the Brandberg. More excavations are planned there for 1985 and 1986.

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KHOIKHOI CONTAINERISATION

Andrew B Smith

INTRODUCTION

The use of containers by aboriginal peoples in Africa probably has a very long history because it would have freed the hands for gathering, would have provided temporary storage for food such as nuts and fruit and was basic to the development of the infant sling.

Since the earliest containers were probably of organic material such as fibres or skins, they have always been under-represented archaeologically due to inadequate conditions of preservation. This is certainly true in southern Africa. Only very special finds of fibres and small leather fragments from cave deposits in the Cape give us actual evidence of this aspect of technology. These are restricted to small pieces of leather and knotted fibres as found at Melkhoutboom Cave excavated by H. J. Deacon, and similar materials as well as leaves used for wrapping black mussel shells and fragments of painted wood (possibly kokerboom) for making quivers from De Hangen excavated by John Parkington and Cedric Poggenpoel. At Elands Bay Cave a small cache of fish gorges was found. Their alignment indicated to John Parkington that they had been stored in some sort of organic container which had subsequently disappeared.

The rock art of the western Cape has a number of examples depicting bags, many with long fringes. These are shown either being carried by human figures, or in rows quite separate from any human figures such as those recorded by Dave Halkett from Site 52 at Putslaagte. Other bags were made from knotted fibres such as the ostrich eggshell carrier basket seen by Paterson in 1790 and by Gordon in 1779 at the mouth of the Orange River.

Archaeological examples of containers are more commonly of materials which do not disintegrate easily: ceramics, ostrich eggshell, tortoise shells and even stone bowls.

KHOI CONTAINERS

In the south-western Cape uses of containers by herding peoples first encountered by the early European travellers are reasonably well documented. These range from ceramic pots to leather bags and woven basketry. Several authors have either illustrations of Khoi pots or descriptions of their manufacture and Kolb (1731) describes them being used most commonly for boiling meat such as mutton, as well as for cooking entrails and almonds. Raven-Hart, in his book The Cape of Good Hope 1652-1702 published by Balkema in 1971, has translated and collated many of the early travellers' records such as those of Schreyer who wrote in 1668:

> . . . the men hack the flesh apart in the skin, and the fattest and most meaty parts are put in a pot and set on the fire . . . Each has a sharp wooden hook, and when now for a time the fire has been tended, and the flesh is boiled, each takes a piece for himself.

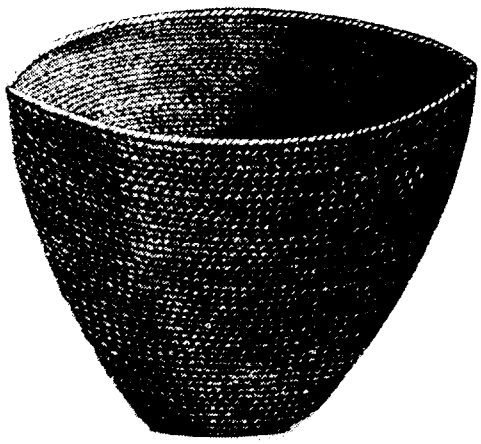
In 1688 Meister wrote that "the fattest and tastiest pieces are set in a pot on the fire" and also described the use of wooden meat hooks. In 1691 Dampier noted: "Their Household Furniture is commonly an earthern Pot or two to boil victuals". Another culinary description given by Ten Rhyne in 1685 says "they kill an ox, two or three or sometimes more sheep, then they skin the carcasses and having exposed them for a little to the air they cook them with the animal's own fat in the pots".

Fatty-acid residues were found adhering to the insides of potsherds excavated at Kasteelberg on the Vredenburg Peninsula. An elemental analysis of these residues from sherds at different levels was done to determine the organic/inorganic nature of the material. The results, to be described by M. Patrick, A. J. de Koning and A. B. Smith in a forthcoming issue of the journal Archaeometry, showed the samples to be either animal or vegetable derivatives. Further analysis using gas-liquid chromatography to determine the fatty-acid composition ruled out any vegetable origin of the fats and the results compared favourably with known readings for the Atlantic grey seal (Halichoerus gryphus). In addition, the existence of Nervonic acid also indicated brain tissue. Since the Cape fur seal (Arctocephalus pusillus) is well represented in the faunal remains from Kasteelberg, but no fatty-acid analysis was known to have been done on this animal, we set up an experiment to boil and bake modern seal fat in a ceramic pot to attempt to simulate the archaeological residues. After 89 days the sample was analysed and gave results significantly similar to the archaeological samples. We feel sure that the pots were being used for cooking seal fat, and possibly even seal skulls.

Residues were also found adhering to potsherds excavated from De Hangen. A similar analysis was performed on these residues, but the results could only be determined to the level of terrestrial animals, such as snake, porcupine or antelope, since no comparative standards were available to us.

In the analyses from both sites, milk and milk products were not present in the residues. This does not mean that milk could not have been stored in Khoi pots, or that pots were not used as containers for other foodstuffs. Of interest, however, is information from Masson who wrote in 1776: "Hottentots . . . brought us milk in baskets made of fine reeds, which they weave so close that they hold any liquid." This suggests that raw milk would be carried in containers other than ceramic ones. Such information is supported by Sparrman who travelled through the Cape in 1772-1776:

> They keep their milk in leathern sacks . . . never eating it till it is curdled; but vessels they milked it into were baskets of a peculiar kind, composed of roots plaited together so curiously, and in so close a manner, that they would not only hold milk but even water.



A woven milk basket from A. Sparrman's book A voyage to the Cape of Good Hope *translated and re-published by the Van Riebeeck Society in 1975.*

Kolb wrote in 1731 of the making of butter:

> For the Making of Butter, they use, in the Place of a Churn, a Wild Beast's Skin, made up into a Sort of Sack, the hairy Side inward. Into this Sack they pour so much Milk as will about half fill it. They then tie up the Sack; and Two Persons, Men or Women, taking Hold of it, One at one End, the Other at the other, they toss the Milk briskly to and fro' until it becomes Butter. They then put it in Pots.

This extract may well have been a copy of Schreyer' account of 1668:

> They put the milk into a leather sack with the hair inside . . . The two of them take the sack, each at one end, and shake and throw about the milk in it until it becomes butter.

Sparrmann reiterates the use of a leather sack turned inside out for preparing milk products:

> The milk, as soon as taken from the cow, is put to other milk which is curdled, and is kept in a leather sack; of this the hairy side . . . is turned inwards; so that the milk is never drank while it is sweet.

There is some difference of opinion about whether milk was drunk sweet or soured. Modern pastoralists drink it both ways, so it is probable that the Khoi did too. Several of the historical accounts indicate that butter was not eaten by the Khoi, but used to anoint the body. Later it was traded to the early Dutch settlers at the Cape.

If these accounts are accurate descriptions of the use of containers by the Khoi then we see that ceramic pots were used primarily for cooking, and other liquids were often put into different containers. Since by no means all cooking was done in pots, much of the meat was just roasted on coals, this might account for the low incidence of pottery on archaeological sites of the Cape, compared with Iron Age and other African ceramic industries where sherds are always much more plentiful.

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ALTAMIRA AND NEW LASCAUX

G C Hoehn

Following a decision in 1952 to form a section devoted to The Prehistory of Chemical Technology, the Deutches Museum in Munich requested the permission of the Spanish authorities to produce for the new section a faithful copy of a portion of the ceiling of the Gran Sala - about 46 sq m - of the Altamira Cave employing the same colouring materials as used by the prehistoric painters. Agreement was reached subject to two conditions: the paintings were not to be touched and a second reproduction was to be made available to a Spanish museum.

Photogrammetric methods were used to produce a contoured map of the ceiling and a grinding machine indexed to the map cut the sectioned plaster blocks to match the shaped base for the paintings. A silicon rubber impression was taken of the combined casts to provide the mould for casting the plaster sections to be suspended finally from the ceiling of the museum room and painted as a facsimile of the cave frieze. The process is described in an article in Chemical and Engineering News Vol. 40:99-102 (1962).

The second copy was installed in a special underground room in the grounds of the National Archaeological Museum in Madrid which is open to the public. With its clever subdued lighting and total silence the feeling of a palaeolithic cave is reproduced, but cannot compare with the atmosphere of awe and wonder when entering the real Altamira.

A few years later, both in Spain and France, it was finally realized that no longer could the public be allowed to continue to visit such popular caves as Altamira and Lascaux. For these two caves closure was essential as the stable interior conditions, existing since palaeolithic times, were now seriously altered by the continuing entry of humans. La maladie verte was taking over. Bacteria were being introduced; green algae were forming due to artificial lighting; temperature and humidity levels were changed and altered carbon dioxide concentrations were all affecting the paintings and the state of the walls.

After exhaustive tests by scientists using numerous monitoring procedures, as well as steps taken to restore original conditions, the damage has been contained. Only tightly restricted entry by experts to these two caves is now permitted.

Due to closure of the Lascaux Cave, the tourist trade of the small nearby town of Montignac was seriously affected. Having investigated and resolved all the technical problems, the French authorities took the pioneering decision to build a replica cave nearby in the same hillside. One requirement was that in the dimensions and contours of the walls and ceiling, the reproduction of the paintings and colouring materials should all match the original cave.

Standard survey and photogrammetric methods were employed but a special system was developed using a steel framework to be fixed to the walls and ceiling covered with fine wire netting and coated with a thin layer of tinted cement similar to the local limestone. This is described in more detail in an article by Profesor R. A. Weale in the Illustrated London News for December 1974.

Before the painting of the new cave, for which only natural ochres found in the neighbourhood were to be used, the longest and most arduous work was the full scale reproduction in colour on special paper of the palaeolithic originals with all measurements faithfully related to the photogrammetric records and a key colour chart.

It was an interesting and exciting privilege for me to make the acquaintance of the artist responsible for this work, Monique Peytral, and to hear her explanations in her own studio and see many of her reproductions. A book by C. Huttin, M. Peytral and P. Weber, Lascaux des Peintres (published by Bernard Froidefond in Montignac in 1983) contains eighteen referenced colour plates of her working sketches, but without commentary on the illustrations.

The authorities who have overall statutory regulations protecting the decorated palaeolithic caves in south-western France and Cantabrian Spain face many problems. No two caves are similar; they vary in size and depth; they may be dry, wet, open or originally sealed; well ventilated or with no air circulation. where the general public is admitted to some caves with critical internal conditions, equipment has been installed to monitor atmospheric variables and watch is kept for new

microcrystallization or calcification of decorated surfaces. At the Font de Gaume Cave in the Dordogne, for example, biological control and careful brushing of some surfaces have brought to light some paintings not previously visible. Nevertheless it is feared that for caves at risk, entry may have to be scaled down again in the future.

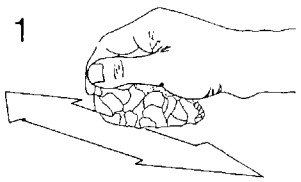
The opening of Lascaux II is an important achievement as it will enable the public to view a superb reconstruction of one of the most beautiful painted palaeolithic caves.

P. O. Box 2080, Clareinch, 7740.

INVESTIGATIONS INTO THE USE OF HAND-AXES

Günther Unrath

Detailed microwear investigations on a Palaeolithic hand-axe from Turkey suggest the following uses:



Meat had been cut with one of the lateral edges.

Bone joints were levered apart with the point.

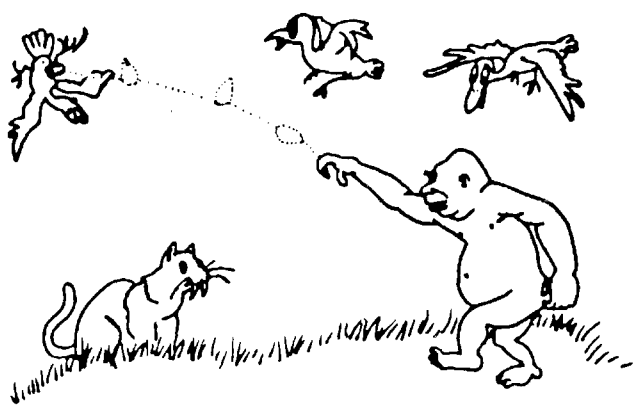
A bone had been smashed with the second lateral edge.

The use-wear polish cannot be recognized with certainty in every case because post-depositional surface modifications might produce similar features.

This information is published in my 1983 article "Vorläufige Ergebnisse in der funktionalen Auswertung der Artefakte aus der altpaläolithischen Fundstelle Sehremus, Südosttürkei" in Archaeologica Venatoria e. V. Mitteilungsblatt 6:22-29.

Universität Tübingen, Institut für Urgeschichte
Nauklerstr 11, 7400 Tübingen, West Germany.

ADDITIONAL USE FOR THE HAND-AXE



Published in an article by H.J. Swart in Man *in 1965.*

ANOTHER LOOK AT THE PURPOSE OF THE ACHEULIAN HAND-AXE

John Wymer

I refer to Mr Madderson's article in the April 1984 issue of THE DIGGING STICK on the Acheulian hand-axe. I am not convinced, as is Mr Madderson, that the true purpose of the Acheulian hand-axe is a 'digging tool'. His practical approach is admirable, but his conclusion is not proven just because they could have been used as such. Some may have been used for digging, but it was not necessarily their main function.

Like Mr Madderson, I have handled many hand-axes and consider that one of their prime functions was butchering meat. Two flint hand-axes from a British site at Hoxne have traces of microwear and polish that tally with the effect of cutting meat. For many years I have wondered why Palaeolithic people went to all the trouble of making hand-axes for skinning and cutting meat if a flake would do the job equally well. The late Louis Leakey used to demonstrate the skinning and butchering of small buck with a flake. It has been Peter Jones at Olduvai, more recently, who tried his hand at skinning large game and soon discovered that using a flake between the thumb and fingers for any length of time was both uncomfortable and painful. The very heaviness of the hand-axe removed the strain on the hand. The production of suitable, large flakes has problems: in the somewhat haphazard knapping techniques of some of the early non-hand-axe industries, a considerable quantity of raw material would have been required and in the refined Levallois technique it was necessary to have good quality raw material and considerable knapping skill.

The technique of microwear analysis could perhaps be applied to hand-axes from African sites, provided they are from fresh contexts. I am confident that distinctive marks would be imparted on a replicated quartzite or silcrete hand-axe if used for digging in abrasive, sandy soils. Macro and microwear traces could then be compared to those possibly existing on genuine hand-axes. When parallels are found we can then state with more confidence that at least some hand-axes were used as digging tools. The experimental work by L. H. Keeley, described in his book Experimental determination of stone tool uses (published by the University of Chicago Press in 1980) shows that both microwear and macrowear traces are imparted on replicated flint hand-axes used for digging in sandy, alluvial topsoil.

Also, it is not at all certain that life was so hard for Homo erectus that he would not waste time on producing something beautiful. The fact remains that many hand-axes are beautiful, in the sense that they show an aesthetic appreciation of form and the possession of considerable knapping skills. It would be unlikely that their makers did not realise this and take a human pleasure in them. Agreed our ancestors were erectus, but they were also Homo! Nor can we dismiss some form of symbolism, and the preferred shapes of hand-axes in particular industries may be connected.

Norfolk Museum Service, Union House, Gressehall,
Dereham, Norfolk NR20 4DR, U.K.

FACES FROM THE PAST

Alan Morris

> Valeryra Davidova, murdered in Gorky Park, was alive again. The eyes sparkled, blood coursed through her cheeks, her lips were red and parted with anxiety, she was about to speak. What seems incredible was that this apparently living head had no body; its neck balanced on a potter's wheel.

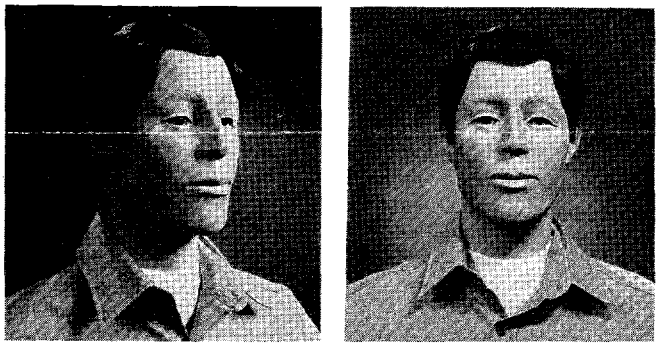
Those of you who have seen the film Gorky Park or have read the book by Martin Cruz Smith (published by Pan in 1981) may remember the story surrounding the above quotation. Moscow police investigator Arkady Renko had engaged the services of Professor Andreev of the Institute of Ethnology to recreate the features of the murdered girl. Her killer had horribly mutilated her face and the only hope for an identification of the body was to have

Andreev reconstruct her visage from the fleshless skull. The skilled Professor was able perfectly to recreate the late Valeryra's face, providing the identification that helped Renko crack the case. The story makes exciting reading and the film is one of the best I've seen in years.

What does all this forensic wizardry have to do with archaeology? The fact is that facial reconstructions have been done for skulls excavated from the distant past. A master of the technique, the late Professor M. M. Gerasimov of the Laboratory for Plastic Reconstruction in the Ethnographical Institute of the U.S.S.R. (the real Andreev), has not only recreated the faces of Ivan the Terrible and Tamerlane, but he has turned his hand to the faces of Homo erectus and the Neanderthals. His autobiography entitled The face finder (published by Hutchinson in 1971) includes many illustrations of his reconstructions and they make an entertaining rogues' gallery. A more widely seen set of resurrected personalities is published in the National Geographic Magazine for May 1984 (Vol. 165:556-613) in an article entitled "The dead do tell tales at Vesuvius". These paintings of long-dead citizens of Herculaneum were created by the National Geographic artist Jay Matternes and produce for us the faces of a well-muscled soldier, a beautiful servant girl and an over-worked middle-aged slave. But how reliable are these reconstructions? Are we really seeing faces from the past?

For the answer to these questions we must return to the world of police work and meet a forensic anthropologist from Oklahoma City named Clyde Snow. Snow, with the help of a medical illustrator, has done over 60 faces and is recognized as about the best in the world. I learned about his work from a Canadian newspaper report in 1980 and was fascinated to find that his accuracy level is nowhere near that of the fictional Professor Andreev. Between 10 and 20% of his police cases were identified directly as a result of the reconstruction, but only one or two were 'bull's eyes'. Most of the successes were from reconstructions close enough to be vaguely familiar to people who knew the victim in life. A third of his 60 cases have never been identified at all. As far as the police are concerned, Snow's work is invaluable because every successful identification is a help to them, but a record of one out of five is pretty poor if you intend accurately to recreate the people of the past.

DO YOU RECOGNIZE THIS MAN?



The above photographs are of a facial reconstruction of a body found in April 1977. The victim had been tortured, shot and deposited in an old septic tank near Tofield Alta.

If reconstructions are four-fifth artistic licence and one-fifth hard data, then we must be very careful about using them to bring long decomposed faces back to life. Gerasimov's model of Ivan the Terrible is truly terrifying, but the facial expression and skin details are not dictated by the underlying skull. They are instead drawn from contemporary historical reports. Sadly, publications like National Geographic give the public entirely the wrong idea. A loose reading of the Herculaneum article gives the feeling that physical anthropologists can recreate the faces so well that we can judge the physical beauty and feel the personality of the long dead subject. What nonsense! The form of the nasal cartilage, the amount of facial fat, the structure of the hair, and the colour and texture of the skin are all features which leave no impression on the bone. Added to these are features of coiffure and facial hair which are culturally determined and change repeatedly through the lifetime of the individual. In sum, the pretty faces in the reconstructions are a valiant attempt to bring 'em back to life, but are mostly based on the wishful thinking of the restorer.

Just for fun, have a look at an honest reconstruction. The hair form and many of the facial features are based on average population morphology and can't be seen from the skull alone. This restoration was done in 1980, but the police have still not found an identification. If he looks familiar, please contact your nearest branch of the Royal Canadian Mounted Police.

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TOXIC HONEY

Bert Woodhouse

In December 1982 Lantern published an article in which I traced progress in the interpretation of numerous rock paintings and some engravings as the nests of bees and honeycombs. In that article I also linked the art with the relevant ethnography. The article has since been substantially reprinted as a chapter in my latest book When animals were people (published in 1984 by Chris van Rensberg). It pays particular tribute to the contributions of Harald Pager and Robin Guy.

In the article I raised the question of whether honey is ever toxic on account of the power of the Bushman deity Gao!na to turn himself into honey in order to poison honey eaten by a man who had displeased him. I have since learned that the answer to this question can be 'Yes', but I would certainly have known sooner if I had had the benefit of a classical education.

A recent reading of The golden fleece by Robert Graves (published in 1944 by Hutchinson) introduced me to Butes the Athenian who was a connoisseur of honey and an expert in all matters connected with it. Alas, even his expertise did not deter him from sampling the Colchian honey which local Thessalians had warned him was poisonous. This honey originated in the 'high azalea forest' and had 'a bitter but refreshing taste'. Its effect on Butes was to reduce him to insensibility and it nearly spelt disaster for the Argonauts - but read or re-read the account for yourself: it is fascinating and leaves no doubt in my mind that the Bushmen sometimes encountered a similar problem.

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Editorial note from Harald Pager:
Other references on toxic honey, honeydew and nectar are contained in a book edited by E. Crane, Honey. A comprehensive survey, published in 1975 by Heinemann in London. See pages 61-64, 96, 202-204 and 424. The book reports on the many investigations made into this phenomenon and mentions early reports like the poisoning of Xenophon's troops in 40 B.C.

ROOTS: TRACING THE ANCESTRY OF MAN IN AFRICA

The Institute for the Study of Man in Africa meets once a month, usually on the third Wednesday. Lectures cover a variety of subjects and are given by eminent men and women in their particular fields. Subjects include social anthropology, archaeology, African history and culture, rock art, current affairs, disease and medicine, genetics, military history and the media. The Institute has two aims: to advance the study of people in Africa and man's ancestors in Africa.

Membership is R15 a year for a couple, R10 for a single person and R4 for students. If you would like to join, write to Mrs Joan Ward, Room 2B10, Medical School, York Road, 2193 Parktown, Johannesburg.

ARCHAEOLOGY AS A COVER-UP

Oliver Davies

I would like to record a few anecdotes which I heard years ago about certain well-known archaeologists who, excepting myself, are now all dead. I cannot vouch for the truth of these stories, but they may amuse members of the Society. I have met all the people concerned.

Sir Arthur Evans. His first adventures were in the north-western Balkans; he was a student at a time when Englishmen thought they had a divine right to interfere in other countries. He travelled in Bosnia and encouraged agitation among the Slavonic Christian peasantry against the Muslim administrators and gentry. When the Hapsburg Empire took over Bosnia in 1878 Evans continued his seditious activities and was in due course imprisoned by the Austrians. A rumour spread that "he must have lost his head"; the English Consul, thinking that this rumour was to be taken literally, rushed up from Kotor expecting to find the English youth decapitated. Evans was subsequently released on condition that he sign an undertaking never to enter the Hapsburg dominions again. He hated the Hapsburg monarchy but we do not know if he was involved in any of the intrigues which led to its downfall. When it became possible to visit Crete, he established himself at Knossos, the excavation of which became his life's work.

Professor J. L. Myres. Before his appointment to a chair at Oxford he had travelled widely in the eastern Mediterranean. He was a true polymath, though his main work was in ancient history and relevant archaeology. His travels had given him enormous experience of winds, currents and sailing techniques in the Aegean. In the First World War he was put in charge of a gunboat and he was able to watch and raid the Turkish coast as no professional naval officer would have dared. The British navy regarded him as a pirate and the most terrible rumours circulated about his kidnapping and raping Greek girls from Turkey, sinking and plundering ships, regardless of whether they were hostile, neutral and so on. In 1980 his son, a fellow of Christ Church, delivered a most amusing tenth memorial lecture about the adventures of his father, who was known as the Blackbeard of the Aegean. I had the privilege of being taught by Professor Myres in the 1920s. He was full of ideas and was one of the great personalities of his time. Oxford did not quite approve of him, as some of his theories were venturesome and he did not observe the dull and respectable but accurate scholarship which most great tutors cultivated.

Professor Filov was Director of the Archaeological Institute in Sofia in the 1930s. I saw him there on the two occasions that I visited Bulgaria. He was very obliging and obtained for me free rail tickets and other facilities so that I could visit Roman mines in that country. In 1940 he arranged the publication of my work in the Proceedings of the Bulgarian Archaeological Institute. His sympathies were, however, pro-German and near the beginning of the war he became Prime Minister of Bulgaria, which joined the German block. When the Russians invaded Bulgaria in 1944 he was caught and shot. I had two interesting adventures during my travels in Bulgaria. I visited an old mine high up in the forest of the Stara Planina. The mine was abandoned and the only people there were three Russian emigres as caretakers. One had been an officer in the Imperial Guard, one a bourgeois and one a wild Cossack. They all lived separately and being of different social origins never spoke to each other. Later, I wanted to go to a mine close to the Turkish frontier. Professor Filov gave me a letter to the military commander who provided me with an escort of soldiers to go along the frontier which was a dried-up stream bed in a thick wood. The escort led me across the stream for about a mile into Turkey and said that they frequently trespassed in this way and that the Turkish frontier guards did likewise into Bulgaria.

Finally I would protest that I never used archaeology as a cover-up for diplomatic, political or espionage purposes. I have frequently protested when friends have suggested that my posting to Turkey in 1942 was as a spy. I was there under the British Council, whose job was cultural propoganda; we were firmly told that under no circumstances must we get involved in political activities. I will conclude, however, with a story about a visit to County Wexford in 1941 to look at old churches and graveyards. Petrol and coal for transport was very scarce and I travelled throughout Ireland, largely by bicycle, with surveying requirements in a rucksack. The peasantry of County Wexford had heard all about parachutists. I was later told that the rumour had gone round that I was a parachutist; when I reached the ground I could fold my parachute into a rucksack and fit together a folding bicycle; when I had finished, I would fold up the bicycle and spread out my rucksack as a parachute again and float away.

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ANCESTORS 1984 EXTRACT FROM THE CLOSING ADDRESS TO SYMPOSIUM ON "PALAEOANTHROPOLOGY": THE HARD EVIDENCE

Phillip Tobias

One can sympathize with those who did not see their way clear to bring or send their fossils to the Ancestors Exhibition in the American Museum of Natural History. Risks are involved every time one travels from one part of the world to another. With the fossils there are potential dangers. Every one of us who was invited was confronted with this problem. It was difficult, a tormenting decision: would the gains outweigh the possible disadvantages?

For myself, having charge of such specimens as the Taung child, first of all Africa's 'missing links' to be discovered, the Border Cave skull, possibly one of the oldest examples of Homo sapiens sapiens, and the first good specimen of Homo habilis from South Africa, I agonized for a full year over whether or not to accept the invitation. What tipped the scales in favour of my doing so was the acceptance by the organizers of the Ancestors Exhibition that a significant research component be added to the plans for the exhibition.

In making this proposal, I had in mind a couple of remarkable precedents. At the beginning of 1939, Ralph von Koenigswald travelled from Bandung to Beijung (Peking), taking with him the wonderful new finds that had been emerging from the soil of Java. In China he and Franz Weidenreich were able to compare at first hand the fossils of 'Pithecanthropus erectus' with those of 'Sinanthropus pekinensis': it was this direct comparison that led them to realise that the two groups of fossils were so similar that generic distinction was not justified. Indeed, they stated in their article published in Nature in 1939 that the Javanese and Chinese hominids "are related to each other in the same way as two different races of present mankind".

A second historic meeting of early hominids straddled two continents. That occurred just 20 years ago, when I was a visiting professor in the Duckworth Laboratory at Cambridge University. I had with me the originals of all of the important East African fossils that Louis and Mary Leakey had been excavating from Olduvai Gorge and Peninj in Tanzania. Von Koenigswald came over from Utrecht in the Netherlands, bearing the most important of the Javanese fossils in his suitcase. All of the Tanzanian and Indonesian fossils were laid out on a table in the Duckworth Laboratory and for three unforgettable days, 11-13 June 1964, he and I enjoyed the unique opportunity of making direct Afro-Asian comparisons, while incredulous colleagues came from many parts of England to see the spectacle. Our direct comparisons revealed important and unsuspected parallels between the stages of hominid evolution in Africa and in Asia and we published the results in Nature in 1964.

With these two precedents in mind one realized how invaluable it would be if an even greater selection of the world's most important fossil hominids could be studied, as they lay in juxtaposition to one another, by a number of competent palaeoanthropologists.

There was yet another earlier instance: in 1959, when Mary Leakey discovered the magnificent cranium of Australopithecus boisei (at first called Zinjanthropus), she and Louis Leakey flew with the fossil, on their laps, to South Africa in order to compare it with the only collections of somewhat similar early hominid specimens,

The Taung child visits New York. The Taung fossil was one of several australopithecines sent to the Ancestors Exhibition in New York last year.

namely those in the Wits Anatomy Department in Johannesburg and in the Transvaal Museum, Pretoria. It was barely a month out of the ground at Olduvai Gorge when it was being examined and compared with the Transvaal specimens.

So, whenever fossils have in the past flown from one area to another for direct comparison, such visits have been attended with most significant results.

Against this background, for four memorable days 2-5 April 1984, private viewings and study sessions took place in the American Museum of Natural History. These study sessions were of enormous advantage to the curators of the loaned specimens, other workers in the field of palaeoanthropology, and a select group of research students of various levels of prior experience. Many new insights were gained during these four days and suffice it to say, it constituted one of the major events in the history of hominid fossil studies.

The eight sessions of the Symposium on "Palaeoanthropology: the hard evidence" held from 6 to 10 April 1984 were a bonus and helped to illuminate and clarify many problems including the timing of the hominid-ape split, the morphology, functional anatomy, systematic position and phylogenetic status of various hominids and the timing of changes from archaic to modern forms of man.

Our discipline of hominid evolution cuts across the outlines of continents, national boundaries, language groups, religions, the sexes, political structures, races and cultures. This principle was well epitomized by this meeting, by those invited and those attending. The fossils came from four out of five continents, numerous countries and various backgrounds. The very holding of this meeting, the viewing session, the symposium, the exhibition of original fossils, have been a vindication of the principle that Science is an international activity that recognizes - and rightly recognizes - no valid boundaries, no legitimate constraints of race, sex, colour, creed or national origin.

Palaeoanthropology is no exception to this universal tenet.

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University of the Witwatersrand, Johannesburg 2001.

A VISIT TO THE SKELETON COAST

L Jacobson

During the first two weeks of January this year I travelled up the Skeleton Coast with Dieter Noli, a student in the Archaeology Department at U.C.T. Dieter is interested in the palaeogeography and archaeology of Angra Fria. The area features two huge pans, sand dunes, screes, gravels, Agate Mountain and, most important, a waterhole named Okau. I should also mention the wind, which never stops blowing. A previous visit I had made to the Skeleton Coast had shown that in spite of its fearsome name and harsh aridity there are portions where the vegetation is quite lush. The large rivers originating in Damaraland, such as the Hoanib, Khumib and Hoarusib, are rich in underground water and support a riverine vegetation which provides a linear oasis through the desert. Water birds, a variety of game animals, as well as lion, can all be seen, even on the beaches. Associated with these green oases are open station archaeological sites. Hut circles and middens are found at the mouths of the larger rivers such as the Uniab and the Khumib.

I was keen to see if the range of human settlement along this coast extended as far as Angra Fria. The Okau waterhole, which we found to be brakish in the bed of the Munutum River, perhaps freshens if recharged by freshwater resulting from rain inland. Apart from the water there are other resources to hand. At least 12 huge Narra plants were seen near the waterhole, most of them heavy with Narra; springbok were seen in the vicinity and there is a seal colony on the coast about 10-12 km away. On the beach itself vast patches of white mussel were found and these can be collected in a matter of minutes; hundreds of crabs were seen running about in front of the waves and remains of whales or dolphins were seen on the beaches, all indicating that food resources here are not really scarce. There is a lot of archaeology as well with dozens of hut circles around Okau and other rivers.

These hut circles are sometimes open circles or ovals of stone. The stones probably served as a reinforcement for the base of huts and range from a single layer of stones to small wall-like structures. They all seem to date from the last 500 years or so and many hundreds, if not thousands, are to be found scattered up and down the coast from Sylvia Hill in the south to Angra Fria and maybe even further north. They appear to be restricted to the east by the 200 mm isohyet and in the interior are not found south of the Omaruru River. A variety of shapes and types has been described in an article published in Cimbebasia (B) 2:235-258 in 1978. Often they are found in dense clusters representing repeated occupations. They are probably the best preserved herder sites in southern Africa and as such are of immense interest, particularly to Cape archaeologists who have yet to find an open station herder site. The Skeleton Coast is not so bare after all!

State Museum, Windhoek

BOOK NEWS

The Witwatersrand University Press announces publication in 1984 of Dart, Taung and the 'Missing Link': an essay on the life and work of Emeritus Professor Raymond Dart written by Phillip V. Tobias. It has about 75 pp and is well illustrated. It can be ordered from the Press, 1 Jan Smuts Ave, 2001 Johannesburg at R10,00 including GST, postage and packing.

The book marks the Diamond Jubilee of the discovery of the Taung skull and the 90th birthday (in 1983) of Professor Dart.

A new and important text book for students of southern African prehistory was published late in 1984 by Balkema. It is edited by Richard G. Klein, is entitled Prehistory and palaeoenvironments of southern Africa, and includes papers by Karl W. Butzer, Louis Scott, Phillip Rightmire, Richard Klein, Brett Hendey, Tom Volman, Janette Deacon and Tim Maggs.

A welcome addition to the literature on hunter-gatherers is Past and present in hunter-gatherer studies edited by Carmel Schrire and published by Academic Press in 1984. It is a collection of essays by researchers who have worked amongst people in Australia, New Guinea and southern Africa and who challenge the view that hunter-gatherers are living fossils from the past. They show instead that these people have indeed adapted to change and are an integral part of the wider world of the present.

WANTED

The University of Cologne would be very interested in purchasing a complete set of the South African Archaeological Bulletin. Please contact the Secretary of the Society at Private Bag X4, 8009 Leeusig if you have such a set. We would also like to know if you wish to sell incomplete sets because we always have interested buyers.

Mills Litho 34433