

Tsodilo Hill, Botswana

The Tsodilo Hills in northwestern Botswana were listed as World Heritage in 2001 on account of their prolific rock art, some 4 000 images, 100 000-year occupation by humans, prehistoric specularite mining, early occupation by pastoral Khwe and Black farmers, spiritual importance to their modern residents and unique attributes in a land of endless sand dunes.

Tsodilo Hills are situated in a remote region of the Kalahari Desert in northwest Botswana. The Hills form a 15km-long chain of four quartzite-schist outcrops rising, the highest to 400m, above Aeolian sand dunes. The Hills contain evidence of some 100 000 years of intermittent human occupations, over 4 000 rock paintings, groups of cupules, at least 20 prehistoric mines, and remains of First Millen-

nium AD farmer villages. Local residents of the Hills, Ju'hoansi (Bushmen) and Hambukushu (Bantu-speaking farmers) still recognise the Hills as sacred.

Background

Tsodilo's rock paintings, first noted by the outside world in 1898, received legal protection only in the late 1930s. The law protecting

Fig. 1. Western cliffs that glow a copper colour in evening light giving the Hills their N'ae name, 'Copper Bracelet of the Evening'.



the paintings also prohibited illegal excavations and damage to, or theft of 'Bushman (archaeological) relics', but failed to protect the Hills and their plants or wildlife.

Research, mainly undertaken by Botswana's National Museum, commenced in 1978 with recording of rock paintings and cupules, excavating rock shelters, early-farmer village sites and prehistoric mines, defining and dating past landscapes, and collecting histories and beliefs of local peoples.

From the 1970s, tourists visiting the Hills increased from less than an annual 300 to an estimated 15 000 in 2009. In 1994, to cope with this influx Botswana National Museum began to implement the first management plan that would lead to erecting a site museum, staff housing, tourist camps, a fence to keep livestock out, and clearing rock-art trails. Local people were trained as guides, and the 4-wheel-drive track to the Hills was upgraded to a gravel road.

Tsodilo was inscribed on the World Heritage List in 2001 on account of its prolific rock art, prehistoric mines, long human occupation, spiritual importance to its modern inhabitants, and its unique beauty and vegetation.

Management under direction of the Community Trust (which includes representatives of all stakeholders) will see the Hills developed, foremost as a heritage area and only secondly as a settlement (Segadika, 2010).

The Hills

Much could be written about Tsodilo: the palaeo-lakes that intermittently bordered their western cliffs between about 27 000-22 000 years ago and again from 19 000 to 12 000 years ago (Brook, 2010); the earliest recorded freshwater fishing in southern Africa (Robbins, 2000, 2010); prehistoric specularite mining (Robbins, 1998); their First Millennium AD trading centre (Wilmsen, 2010). And then, there are the beliefs of the local people in the immense spiritual power still vested in the Hills (Fig. 1).

There must be something very special about Tsodilo to host this abundance of art, for other rock outcrops in the region bear no paintings. The art stands alone, isolated in the desert, the two nearest known sites lying far to east and west.

Archaeology

Excavations have told us something about past human occupations of the Hills. White Paintings Shelter, excavated to a depth of seven metres, has disclosed human-made artefacts dating back almost to 100 000 years. Fish bones commencing in a level dated to more than 30 000 years ago bear witness to the longest known exploitation of freshwater fishing in southern Africa. Catfish and bream were caught with spears or harpoons and carved bone points suggest the use of light bows and poisoned arrows from very early in the Later Stone Age (Robbins, 2000). Wetland animals, no longer found at Tsodilo, were also hunted by Later Stone Age peoples. Carefully flaked stone points that are older than 50,000 years were used to tip spears during the Middle Stone Age.

For more recent times, we know that stone-tool-making people herding cattle and sheep settled the Hills early in the First Millennium AD (Wilmsen, 2010). In about AD 650-700, they were joined by metal-working farmers coming from the north who owned goats and traded for copper and iron jewellery, Asian glass beads

Fig. 2. Samutjau Mukate, Mbukushu headman, 1975.





Fig. 3. Gcau, a Ju/'hoan man, 2008.

and seashells, all commodities transported from very distant places (Wilmsen, *ibid*).

Modern residents

Today, there are two small villages below the Hills, one occupied by Bantu-speaking Hambukushu farmers and the other by Ju/'hoansi (San who speak a Northern Bushman language). Both groups say their ancestors first settled the Hills in the mid 19th century at a time when N/ae khoe (speakers of a Central Bushman language not mutually understandable with Northern Bushman) still lived in the Hills.

Hambukushu (Fig. 2) originated on the Zambezi River, worked metal, grew crops, owned some livestock, fished and collected wild food. Ju/'hoansi (Fig. 3) were traditionally mobile gatherer-hunters without livestock, and hunted with bows and arrows. Historically, N/ae khoe were gatherer-hunters who periodically owned cattle and sheep, ate fish and hunted with spears rather than bows (Taylor 2010).

Prehistoric mining

Some 20 prehistoric mines have been located in the Hills (Fig. 4) that produced specularite, a glittering iron oxide once used in southern

Africa as a decorative cosmetic (Robbins, 1998, Murphy, 2010). Prominent veins of specularite are visible at the entrances of the cave-like mines and may be seen along the interior walls. The bedrock inside of the mines was broken using fire and hammer stones. Some specularite was processed at the Nqoma settlements (Wilmsen *ibid*); broken rock was left in abandoned chambers or dumped outside the mines. One mine produced mica, while there are places where crystal quartz has been systematically chipped from veins in the mother-rock.

Judging by the size of some of the mines and hardness of the rock, mining must have commenced thousands of years ago. After the arrival of metal-working farmers, mining appears to have intensified and then ceased in about 1150 AD when occupation of the Hills declined. Possibly, specularite was the main item traded for glass beads, seashells, and iron and copper, the latter not occurring naturally in the Hills.

Fig. 4. Specularite Mine, Upper Male Hill. Ceased operating about AD 1080.

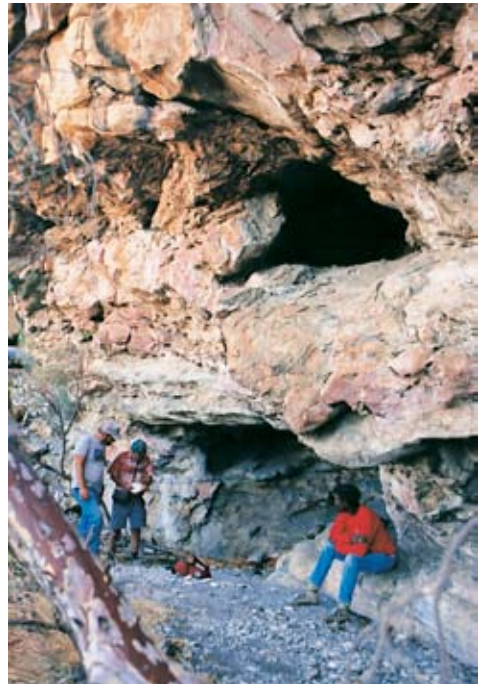




Fig. 5. Red animal painted on exposed cliff face, Gubekho Gorge.

Fig. 6. The so-called 'Van der Post Panel'.



Rock Art

Scattered through the Hills are some 400 rock art sites with over 4 000 individual paintings. The nearest known site, Gubatsha: with paintings of wild animals, geometric designs and a cow, is located more than 250km to the east of Tsodilo. Other sites with paintings, different in style to those at Tsodilo and Gubatsha:, lie further away, more than 300km to east and west of the Hills (Campbell, 2010).

There are two distinct forms of paintings: the one form includes over 3 800 images painted in red, while the other, with 200 recorded images, is painted in powdery or greasy white pigment. Both forms feature certain motifs, although in differing proportions and levels of skill: animals, geometric designs, crude human figures and a very few positive handprints (Campbell, 1994, 2010).

Paintings are placed, often haphazardly, on exposed cliffs and rock faces open to sun, wind, rain, and vegetation damage (Fig. 5 & 6). The artists drew with the fingers, mainly in shades

of red. A few paintings occur in shelters with evidence of past habitation but, for the most part, the sites are located in positions where it would be difficult or almost impossible for even a small group of people to perform rituals that involve contact with the art.

The numerical proportions of both red and white images, mainly animals and geometric designs with few human figures, follow the pattern generally found amongst southern African inland rock engravings (Butzer, 1979) rather than those of the rock paintings where detailed human figures predominate followed by wild animals and few geometric designs.

Red paintings

About half of all red motifs are animals, one-third geometric designs, and some 13 per cent human figures together with a few handprints. Animals are depicted in silhouette with heads in twisted perspective with two or four legs, two horns and two ears (Fig. 7). Certain spe-

Fig. 7. Eland and calf with heads shown in twisted perspective.





Fig. 8. Exposed cliff with paintings of elephant, antelope, cow, people and geometric designs.

Fig. 9. Concealed in a fissure, paintings of cattle.



cies dominate the art: giraffe, eland, rhino, zebra, cattle, elephant, and several species of antelope (Fig. 8). Many of the animals depicted in the paintings were also found in archaeological excavations (Campbell 2010). Very important are more than 120 cattle images drawn in the same styles as those of wild animals suggesting that they form an integral feature of the art (Fig. 9).

Human figures are small, stick-like and lack clothing or weapons. Invariably, they face sideways with men denoted by penises and women by two breasts. The few obvious scenes include men, sometimes woman, and people with cattle (Fig. 10).

Geometric designs include a variety of angular and rounded shapes, sometimes containing grids (Figs. 11 & 12).

White Paintings

Ninety-seven of the 200 recorded white paintings occur in White Paintings Shelter, the largest and most suitable shelter in the Hills for



Fig. 10. Red paintings of domestic cow's head, men, woman and angular design.



Fig. 11. (right) Various red geometric designs and row of eleven men.

Fig. 12. Angular geometric designs, two superimposing outline cow or eland facing left.



human occupation. Sixty other white paintings occur in caves and shelters, or sheltered areas. Only 43 paintings occur at unprotected sites and of these, only one is not suitable for ritual performance.

Numerical proportions of white motifs differ somewhat from those of the red art. Half of all motifs are geometric designs (Fig. 13). One quarter are made up of human figures and another quarter of animals. There are seven horsemen (Fig. 14), one handprint, and a possible wagon and wagon-wheel.

Animals include antelope, cattle, snakes, giraffe, an elephant, a rhino and a zebra, and two goats.

Human figures are all small, stick-like men lacking clothing and weapons, facing both sideways and forwards and often standing with a hand or hands on hips. One man holds a goat, and seven men ride horses. There are no obvious women. Two possible scenes: a line of faded men with hands on hips facing forwards, and seven men mounted on horses



Fig. 13. White, rounded geometric designs, superimposing red geometric design at upper middle of panel.

Fig. 15. (right) Polychrome rhinoceros (with badly faded white pigment on body). White geometrics designs superimpose faded red animals. Black outline cow. Note at left, white circle containing grid superimposing rhino. (see Fig, 17).

and scattered amongst other paintings that surround an elephant.

Geometric designs are rounded, including circles, concentric circles, and ovals containing grids or patterns, and a few 'm' shapes.

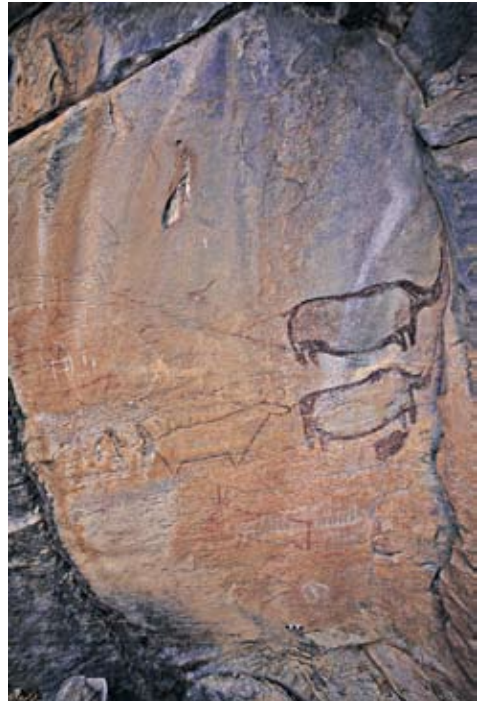


Fig. 14.
One of seven white horsemen.

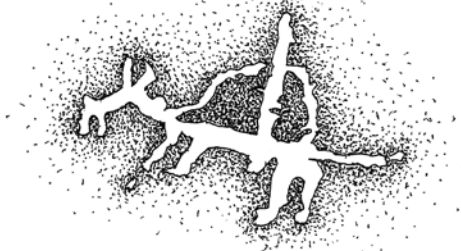




Fig. 16. About 340 cupules, grooves and other shapes carved over a long period into cave wall. Two researchers describe the panel as representing a snake.

Polychrome Paintings

There are two large polychrome paintings of rhinoceros with a baby rhino (Fig. 15). The panel also has faded red paintings of rhino, antelope and zebra, some of these latter images superimposed by white geometric designs (Fig. 17). We wonder how these polychromes fit into the art since they are painted in a different style to all other paintings in the Hills.

Cupules and Grooves

There are over 2 000 cupules (saucer-shaped depression) and perhaps 100 grooves at 25 known sites, usually in shelters and on vertical faces. Generally, cupules occur in groups ranging in numbers from a few to the largest group with over 1 200. They were apparently made by grinding, possibly using a spherical piece of rock. Such spheres, in quartz and slightly smaller than a tennis ball, have been excavated (and a piece of one found) near cupule sites (Campbell, 2010).

Some cupules appear to be old, perhaps dating back to the Palaeolithic. Their purpose is unknown although one long panel of about 240 cupules and ground shapes in Rhino Cave (Fig. 16) has been described by two researchers as a 'snake', but we think the resemblance to be coincidental rather than planned. From their wear and patina, the grindings must have been made over a long time period.

Grooves are smooth, canoe-shaped indentations with rounded bottoms, usually about 15-20cm long, although a few are longer, and were also probably made by grinding with a hard, blade-shaped stone. Such a stone was excavated in Depression Shelter where both cupules and grooves occur.

In four instances, small groups of grooves occur on horizontal faces at the mouths of valleys or gorges. Grooves may be markers indicating boundaries (beyond which only the initiated might tread?).



Fig. 17. White geometric superimposing red rhinoceros. White snake and possible black zebra or horse (see Figure 15).

Dating the paintings

Today, with the exception of a few white paintings, only coloured stains remain on the rock indicating original motifs: pigment containing organic material suitable for dating has disappeared.

There are differences between the red and white paintings that separate these art forms into two fairly distinct traditions. Red motifs are generally better executed than the white. White paintings sometimes superimpose red paintings (Fig 17), but the reverse never occurs. Numerical proportions of motifs differ, white designs are rounded while red designs can be angular or rounded, and human figures in both traditions differ in many ways.

Cattle paintings help to date the red art. Cattle remains excavated at Toteng, 250 km south of Tsodilo, have been directly dated to about 100 AD (Robbins, 2005) evidencing existence of cattle in the region at that early time. In addition, Later Stone Age pastoralists owning cattle and sheep occupied the Hills prior to the arrival of iron-working farmers in about AD 650-700 (Wilmsen, *ibid*). Between AD 800 and 1150, cattle rapidly increased, peaked and then diminished. Thus, red painting probably dates to the period when people managed cattle in the Hills, commencing early in the First Millennium AD and terminating about 1100 AD.

White powdery images are often very faded, sometimes barely discernable. The images of

horsemen appear to have slightly faded over the last 45 years and cannot have been drawn earlier than 1852 when the first horses are known to have passed by the Hills.

We believe that painting in red may have spanned the first millennium AD to be followed by painting in white, possibly commencing at a much later date.

Who were the artists?

Ju/'hoansi first arrived at Tsodilo in about 1850 when they found N/aekhoe living at the Hills. The N/aekhoe (also spelt Ncaekhwe, 2010) told the Ju/'hoansi that God had made the paintings (Campbell, 1994). Later, a N/ae man, descended from people who had lived at the Hills, told us his ancestors had made the red paintings. Differences in colour, style, numerical proportions of motifs, superimposition and geometric designs between the two art forms suggest the artists belonged to different peoples. The proportions of the red motifs are similar to the later engravings inscribed on southern Africa's inland plateau that have been credited to Khoe herders (Smith & Ouzman, 2004) leaving little doubt that the early pastoral settlers at Nqoma were the artists.

Elsewhere in Africa, somewhat similar white paintings have been credited to Bantu-speaking peoples (Smith, 1997). Bantu-speaking Hambukushu have no history of rock painting, or even once living in rock areas, and today's residents of the Hills deny their ancestors made the white paintings. They think the horsemen were drawn by the horsemen themselves. Nor is there evidence of any other Bantu-speaking peoples with a history of rock painting who may have inhabited the area.

A Ju/'hoan man told us that one of his ancestors had painted a geometric design in White Paintings Shelter, but later denied this. Other Ju/'hoansi confirmed the painting had been made by their ancestor.

While there are differences between the red and white paintings, there are also similarities: numerous geometrics, stick humans and large animal motifs. Such similarities suggest a connection between the two art forms, possibly reflecting related peoples, but a time frame where one art form followed the other.

A North to South rock-art trail

The rock paintings of Tsodilo and Gubatsha: hills stand as stepping stones between the North and South. There are geometric designs somewhat similar to those at Tsodilo that occur in Angola, Zambia, Malawi, Tanzania and even as far north as Uganda and western Kenya. Whether the art practice slowly moved south with migrating peoples or spread through communities remains uncertain (Campbell, 1994).

Purpose of the art

Today, we can only speculate on the meaning of and uses to which the art may have been put. The red motifs are probably symbols representing fertility, abundance, health, good company, protection against evil, rain, even the spirits within the Hills. The white paintings may have similar symbolic meaning and have been positioned at, and sometimes over the red paintings to draw power from them.

The nature of their sites suggests that red paintings may have been important to individuals or small groups while white paintings could have involved larger group rituals in which whole communities took part.

Samutjau Mukate, head of the Hambukushu community (Fig. 2), told us of two ways in which the art was still used in the early 20th century. He said his ancestors had used White Paintings Shelter to perform curing dances that involved one of the paintings. Three men beat long drums while the adult community sang a certain song that drew mentally affected people to the shelter and, as they entered the dance, cured them of their illness. The second use involved placing both hands on a painting to obtain a certain result. He indicated that different motifs had different powers, but did not disclose what these powers involved.

The Spirits in the Hills

Many places in the hills contain medicinal plants, there is a spring containing water of great spiritual importance and sites where rainmaking ceremonies are performed. The N/aekhwe showed the Ju'hoansi a site with rocks naturally shaped like a female's private parts and told them that God had first shown

their ancestors there how the sexual act is performed resulting in the human race. Both Hambukushu and Ju'hoansi claim another site marked by animal slide-marks in the rock believing this is where God first lowered people and cattle (Hambukushu) or eland (Ju'hoansi) to earth from heaven (Campbell and Taylor, 2010).

It is thought that spirits live in the Hills capable of many things including both curing and punishing. People entering the Hills must be respectful and, if they fail to do so, will be punished. An herbalist who visited the Hills some years ago derided advice refused to be accompanied, climbed the Hills, fell and was killed on the rocks.

Conclusion

Tsodilo is a magical place, remote, peaceful, uplifting, and filled with history. Its greatest attraction to tourist may be its rock art, but for many people the Hills offer a place of healing. Development in the best interests of all, the local inhabitants, visitors and Botswana will not be easy. The new management plan intends to retain as much as possible of the past while opening the Hills to the future.

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Acknowledgements

We are grateful to David Couslon, Trust for African Rock Art, Nairobi for the use of his photographs, Figures 5, 6, 7, 8 and 16. Other photographs were taken by Alec Campbell. All illustration are taken from *Tsodilo Hills : Copper Bracelet of the Kalahari* edited by Alec Campbell, Lawrence Robbins and Michael Taylor, and published by Michigan State University Press and The Botswana Society. We thank Catherine Guest for preparing the photographs for publication. The drawings were prepared by Alec Campbell from transparencies.

Appendix

This appendix offers a broader presentation of the pictorial heritage of the Tsodilo Hills in northwestern Botswana, listed as World Heritage in 2001 on account of their prolific rock art, some 4 000 images.



*Bichrome painting.
Herding or stealing cattle.*

Person apparently dancing in front of hippopotamus. Foto: David Coulson.





Complicated white design on roof of Upper Cavern, Male Hill. Foto: David Coulson.

Rhinoceros paintings high on wall of Gubekho Gorge



Outline animal paintings on Child Hill.



Tashra, or translated from Jul'hoan, 'Dancing Penises'

