HISTORY

Depictions of relationships between elephants and San people in the rock art of the Cederberg mountains, Western Cape

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Abstract

The rock art of the San people in the Cederberg mountains of the Western Cape has the highest concentration of elephant paintings anywhere in the world, providing a unique insight into the historical relationship between the San people and elephants. This relationship was one of symbiotic commensalism, whereby the San benefited from the relationship, which neither helped nor harmed the elephants. These paintings provide evidence of the reverence felt by the San towards elephants. The San regarded the elephants as beings to whom they were connected by *n|om*, a vibratory life force which comes directly from God the Creator and animates all living beings. The San encountered elephants not only in their daily lives but also in their imaginary mythological world, suggesting that elephants were deeply embedded in their psyche. The artwork, storytelling and mythology of the San were thoroughly practical in effect and depicted a harmonious relationship between elephants and the San. To understand this relationship, this paper compares and analyses various behavioural contexts linking the San to elephants, as depicted in 17 Cederberg rock art sites. Most researchers believe that the paintings, still visible on the rocks of the Cederberg, were created in the last 7,000 years and the bulk of the paintings of elephants, eland and lines of dancing people are at least 1,500 years old.

Résumé

L'art rupestre du peuple San dans les montagnes du Cederberg (province du Cap-Occidental) présente la concentration la plus élevée de représentations d'éléphants au monde et offre un aperçu unique des relations historiques que ce peuple entretenait avec ces animaux. Ce sont des liens de commensalisme symbiotique, desquels les San bénéficiaient et qui ne visaient ni à aider les éléphants, ni à leur nuire. Ces peintures témoignent de la vénération portée par les San à leur égard, qu'ils considéraient comme des figures auxquelles ils étaient connectés par le *n|om*, une force vitale vibratoire directement issue du Créateur et qui anime tous les êtres vivants. Les San côtoyaient les éléphants, non seulement dans leur vie quotidienne, mais également dans leur monde mythologique imaginaire, laissant suggérer que ces animaux étaient profondément ancrés dans leur psyché. L'art, les récits et les mythes de ce peuple étaient essentiellement

pragmatiques et dépeignaient une relation harmonieuse avec eux. Afin de comprendre les liens qui les unissaient, cet article s'attache à comparer et à analyser les différents contextes comportementaux reliant les San aux éléphants, tels qu'ils sont restitués dans les 17 sites d'arts rupestres du Cederberg. La plupart des chercheurs estiment que ces peintures, toujours visibles dans cette région, ont été réalisées au cours des 7 000 dernières années et que l'essentiel des représentations d'éléphants, d'oryx et de rangées de danseurs datent d'au moins 1 500 ans.

Introduction

The Cederberg Mountains (henceforth Cederberg) in the Western Cape Province, South Africa, are located at the southernmost tip of Africa (Fig. 1). They are part of the Cape Fold Mountains and form a series of parallel mountain ranges that follow the south-western coastline of South Africa, producing a rugged mountainous terrain, characterized by a sequence of elevated ridges and peaks separated by broad, linear valleys. These tributary valleys form convenient routes through these fold mountains, and many of them are known to have been used by precolonial hunter-gatherers and elephants. Most of the San rock art sites today are located along these drainage systems, which provided permanent or seasonal water sources (Parkington 2003).

The Cape Floral Kingdom is the smallest of the six floral kingdoms in the world and is divided into five different types of vegetation or biomes. Two of these are found in the Cederberg, namely the Fynbos and the Succulent Karoo biomes. The Cape climate is Mediterranean, characterized by warm, dry summers and mild, moist winters.

The San hunter-gatherer peoples in southern Africa have the most genetically diverse DNA in the world, establishing them as being directly descended from the earliest human ancestors (Tishkoff 2009). The San languages are noted for their distinctive click sounds and are regarded as the earliest form of language. These languages comprise around 30 dialects and constitute a rich linguistic heritage; however, the number of fluent speakers has dwindled to approximately 16,000 since the start of the 20th century (Ungarsky 2022). The San culture is a living record of the earliest ways

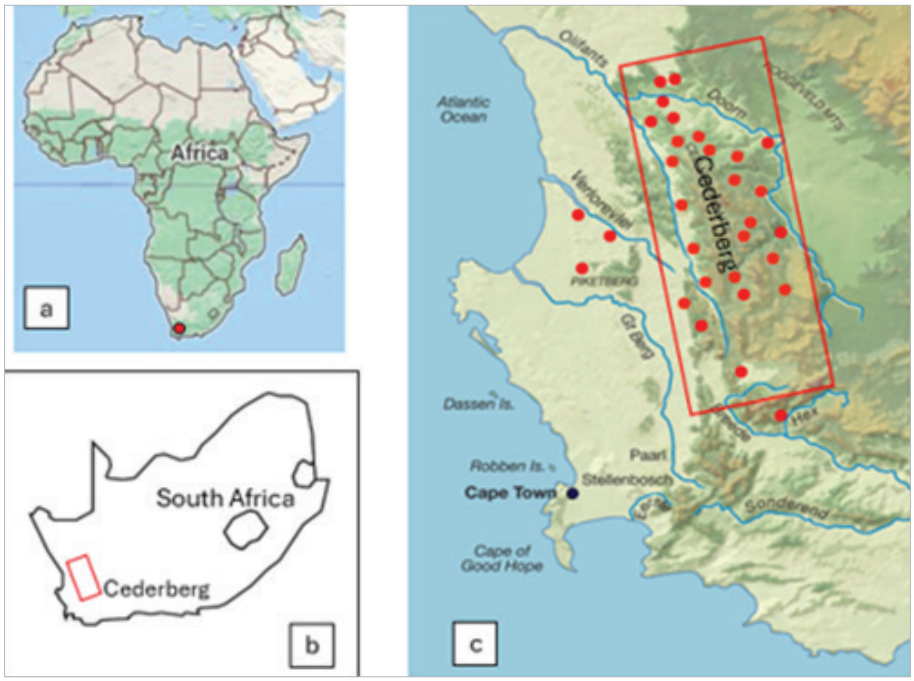

Figure 1. The location of the Cederberg mountain range in (a) Africa and (b) South Africa. (c) The distribution of rock art sites in the Cederberg mountains.

and means of human expression, ranging from art to dance, music, and religion.

Archaeological sites in the southern Cape suggest that people of the same physical type as the San were living in this part of the continent as long as 120,000 years ago. (Deacon 1994). Today, there are approximately 160,000 San people in southern Africa with around 7,000 residing in South Africa. However, there have been no San hunter-gatherers in the Cederberg since the mid-1800s. This paper therefore draws on the culture, ways of life, social interactions and beliefs of the southern */Xam* San people who lived in the Northern Cape during the 1880s, and the northern *!Kung* and *Ju|`hoansi* San people who currently reside along the Namibian/Botswana border. The San do not paint rock art today, and their hunter-gatherer traditions have all but died out, as they are irrevocably drawn into the vortex of modern civilisation (Johnson 1979).

The San and elephants in the Cederberg

San hunter-gatherers and elephants, as evidenced in the San rock art paintings, coexisted in the Cederberg for thousands of years. Southern African rock art dates back 27,500 years, with the age of the Cederberg elephant paintings ranging from 500 to 7,000 years (Parkington 2003).

The presence of elephants and San in the Cederberg was confirmed by the earliest colonial expedition into the area. In 1660 Jan Danckaert led a group of European explorers into the fertile valley of a large river, about a three-week journey from the fort in Cape Town. Danckaert noted: "We caught the most beautiful fish in the world. West of us, on the slopes of the mountains, we saw 200 to 300 elephants together" (Fig. 2a) (Thom 1952; Parkington 1977). This river, now known as the Olifants River, was referred to by the San as the *Tarakamma*. The mountains referred to by Danckaert, where elephants were seen, surround the present-day town of Citrusdal and are well known for their many San rock art sites with painted elephants. After the arrival of colonialists in the Cape of Good Hope in 1652, the San hunter-gatherers and elephants began to vacate the area. It appears that within 200 years of the arrival of colonialists in 1652, the San and elephants had all but disappeared from the Cederberg.

San beliefs, mythology and art

To understand the relationship of the San and elephants over time, one needs to understand the San culture.

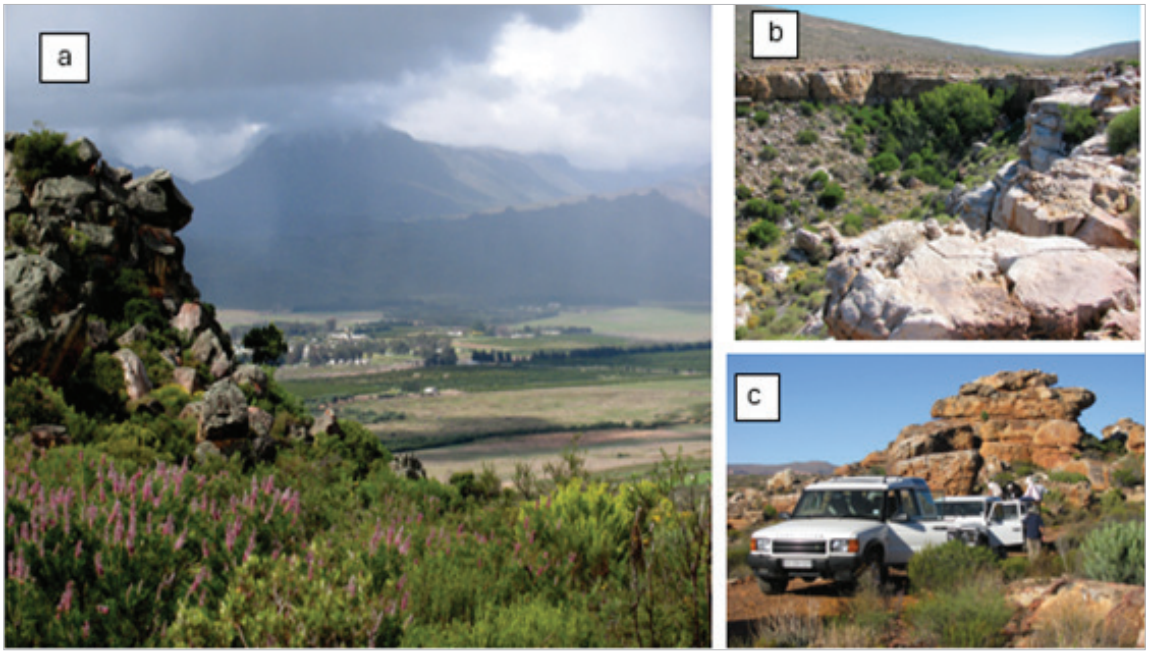

Figure 2. (a) Citrusdal in the Olifants River valley with the backdrop of Cederberg mountains, where colonial explorers counted 200–300 elephants in 1660. (b) Hidden rock art shelters in the Cederberg. (c) Large free-standing outcrops with rock art paintings.

The first written record of South African San folklore, beliefs and life stories was compiled by Dr Wilhelm Bleek and his sister-in-law, Dr Lucy Lloyd, in Cape Town in the 1870s and 1880s (Deacon 1994). Three southern San men spent several years at the Bleek family home in Mowbray, Cape Town. Bleek and Lloyd learnt the language of the southern San, developed a method for recording the clicks and other sounds that had no equivalent in English, and began transcribing verbatim what they were told. They then translated the southern San language into English and ultimately built up a testimony of more than 11,000 pages in 130 notebooks. (Deacon 1994). Their records reveal a way of seeing the world that underpins our understanding of the San rock art of the Cederberg today (Parkington 2003).

In the early mythological accounts recorded by Bleek and Lloyd in 1878, a San informant named *han ≠kass`o* described a period that the San called the First Creation, a period of time when elephants were people. This mythology offers a glimpse into the deep cultural and spiritual significance that elephants had in the San culture. Bleek and Lloyd were convinced, from their interviews, that the paintings of the San were not merely daubing of figures of idle pastime but were a truly artistic conception of the ideas which most deeply moved the Bushman mind and filled them with religious feelings (Deacon and Dawson 1997). Years later, Megan Biesele (1978), who worked with the northern San people in Botswana and Namibia, confirmed the Bleek and Lloyd findings and, moreover, that southern and northern San story traditions were homogeneous in one important respect: "All the animals in their mythology and stories were originally people and only later became animals" (Biesele 1978).

The first recorded discovery of a San painting of an elephant mother and baby appears to have been by Thomas Bain when he was building a road through the Cederberg Pakhuis pass between 1875 and 1877. Over the past 150 years, more than 200 art sites depicting elephants have been found in the Cederberg, scattered over an area of approximately 10,000 km2, containing a total of around 600 painted elephants.

One of the earliest tracings made of a San painting with elephants in the Cederberg was by Ginger Townley Johnson in 1961 at a site called Monte Cristo. This tracing was featured on the front cover of the South African Archaeological Bulletin published in September 1962 (Fig. 3a). The site was close to where the Danckaert expedition had crossed into the Cederberg in 1660. The tracing of paintings at this site, illustrating elephant-headed people dancing with the San (Fig. 3), confirmed the findings of Bleek and Lloyd (1880) and Biesele (1978). Townley Johnson's insightful personal comment on his tracing was that

> "elephants are more numerous among the paintings of the region than elsewhere, which may mean that they were of special symbolic importance. At first sight, this painting could be interpreted as a series of natural or artificial barriers, perhaps pitfalls. However, many of the lines, such as the zigzag sections, do not seem to represent any physical barrier or other object. Furthermore, the human figures with trunks suggest a symbolic association between elephant and man." (Townley Johnson 1979).

The study of San rock art paintings featuring elephants in the Cederberg was initiated by Townley Johnson in 1961 and continues to this day (Woodhouse 1985; Deacon 1994; Slingsby 1998; Paterson 2007; 2019; 2020; Paterson and Parkington 2016; Parkington and Paterson 2017; Paterson et al. 2025).

San culture and elephant behaviour

Anthropologists have researched present-day San culture since the early 1950s, when Lorna Marshall and her family began working with the northern San in the *Tsumkwe* area in northern Namibia, near the Botswana border. Since then, numerous anthropologists have studied the northern San people, the *!Kung* or *Ju'hoansi* (Biesele 1978, 1993, 2009; Liebenberg 1990; Marshall 1999; Keeney and Keeney 2015). These studies provide insights in San culture, social behaviour, religious beliefs, teachings, healing practices, childbirth procedures, ritual dances, hunting and rain rites, male and female initiation ceremonies, mythology, storytelling, language, hunting, tracking, and food gathering. All of these aspects of northern San culture and behaviour, as described by anthropologists, correspond to depictions of daily life in the Cederberg rock paintings.

Comprehensive studies of elephant behaviour

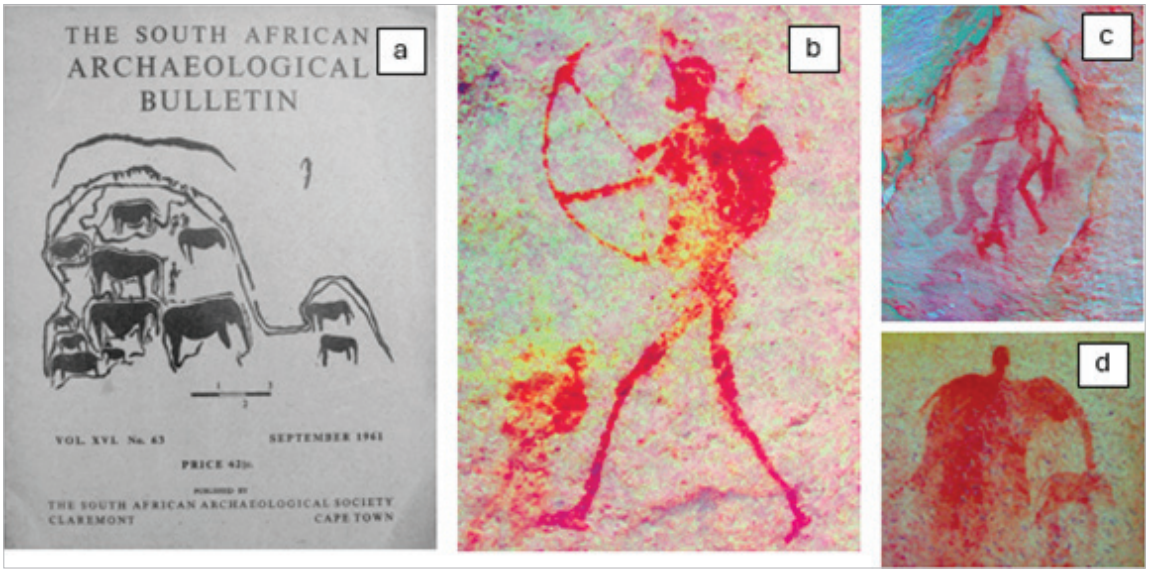

Figure 3. (a) Tracing of elephants by Townley Johnson, 1961. (b) A San hunter stalking an animal. (c) San figures running. (d) A San person and two elephants walking together.

(Douglas-Hamilton 1975; Moss 1988; Poole 1997; Payne 1999; Mortimer et al. 2018) underpin knowledge of the social structure of elephant society, female family units, male bond groups, communication methods, musth, mating and birthing behaviour, rearing and protection of young, and many other aspects of elephant behaviour. Again, all these can be found accurately depicted in the Cederberg rock art.

San rock paintings of elephants

The San painted elephants in a detailed and natural way, which confirms that they had an intimate understanding of elephant behaviour. The San artists' understanding of elephant social structure, physical characteristics and proportions, sounds, movement, feeding and breeding habits came from their direct observations of elephants in their natural environment. Early anthropologists have described the extent of northern San knowledge regarding animal behaviour as remarkable (Blurton Jones and Konner 1998).

The ability of San artists to draw elephants with such accuracy is believed to be directly linked to their extraordinary tracking skills. San trackers were able to hold visual images in their short-term memories that were almost photographic in clarity. The success of the San's hunting strategies, and thus their survival, was dependent upon this highly refined eidetic memory, which enabled them to visualize animal behaviour and movements from their tracks (Liebenberg 1990). All of these features, drawn by the San from memory, were painted directly onto the walls of rock shelters (Fig. 4).

Fieldwork and database

This paper represents the culmination of 20 years of research on elephant paintings found in the rock art of the Cederberg. It includes visits to San rock art sites alongside Professor John Parkington from the Department of Archaeology at the University of Cape Town, as well as field trips with the Eastern Cederberg Rock Art Group (eCRAG), which was established by Dr Janette Deacon of Stellenbosch University.

The Parkington and eCRAG field work for this paper involved finding and visiting rock art sites containing paintings of San and elephants together. The GPS coordinates of each site location were recorded, and the dimensions of the shelter site were measured. The painted sections on the walls of the shelter were divided into two-meter panels, observed, described and recorded. The painted images were then photographed and enhanced using DStretch Rock Art Digital Enhancement, a programme developed by Dr

Figure 4. (a) Measuring the dimensions of a San rock art shelter with the Eastern Cederberg Rock Art Group (eCRAG). (b) DStretch lre.jpg enhanced image of a San painting of elephants. (c) Tracing of the elephants from the above DStretch image used to inform the research.

J. Harman that analyses photographs of rock art sites and then shifts the image colour to highlight designs and patterns that are faded or invisible to the naked eye. The result is a false colour image that often appears much more detailed than the original (Fig. 3). All the digital data was uploaded onto the South African Heritage Information System (SAHRIS) database for further research and comparison with incoming data from other sites and researchers.

A total of 17 elephant sites, from my research database of 60 elephant sites in the Cederberg, were selected for analysis in this study of the relationship that existed between elephants and San thousands of years ago. These 17 sites contain 122 elephant paintings, 201 San figures, and a special group of 25 elephant-headed people (elephanthropes) that are unique to San rock art.

Methodology

The study adopted a multidisciplinary approach, combining insights from anthropological, archaeological, ecological, biological, behavioural and artistic studies. The interpretations of paintings in this paper are based on empirical in situ field evidence, verifiable by observation, experience and research.

In the field of anthropology, this study draws in particular on Geertz's (1973) work on symbolic and interpretive anthropology. He suggests that human beings as individuals are bound up in a series of symbolic or mythic representations, and that "man is an animal suspended in webs of significance that he himself has spun". These webs of symbols and myths serve to generate and maintain meaning and provide the structure for humankind's worldviews. This conceptualisation informs our interpretation of the rock art in the Cederberg.

Geertz's work resonates with the cultural concept of San called *n/om*, which they regard as a life force that comes directly from God the Creator, which animates all living beings and is the source of all "inspired energy" (Keeney and Keeney 2015, p.213). *N/om* is at the heart of San spirituality and healing. To the San, nature is seen as a web of interconnected ropes, strings and threads. The San perceive themselves as being directly connected to animals and plants in their ecosystem and especially to elephants. For the San, this web of nature is literal and, in an awakened state, a healer, or *n/om-kxao*, may see the world as a giant spider web. Song and dance can send *n/om* throughout the entire weave and thereby contribute to the wellbeing of the whole of nature (Keeney and Keeney 2015). The analysis of the paintings draws on Panofsky's (1972) iconographic approach to interpreting the content of artworks across three stages of analysis: description, understanding, and interpretation.

The first stage, description, focuses on the natural subject matter depicted in the painting. This is the most basic understanding of an artwork, which is perceived in its purest form, devoid of any added cultural knowledge. We relate San depictions of elephants to the detailed catalogue of the behaviour

and communication of African savannah elephants (*Loxodonta africana*) in the Elephant Ethogram, an online resource[1] compiled by Joyce Poole and Petter Granli of ElephantVoices and launched in May 2021. The Ethogram describes and illustrates 322 behaviours, 103 behavioural constellations and 23 behavioural contexts. A behaviour is a unique movement or action in response to a particular situation or stimulus, while a constellation is a suite of behaviours that typically occur together, and a behavioural context refers to the circumstances or setting in which a behaviour takes place. We drew on the Ethogram to classify the behaviour of elephants and the behavioural contexts depicted in the 17 painting sites selected for analysis. (Table 1). This classification was made possible because the San artists painted elephants in natural behavioural contexts that can still be observed in the wild today.

Another important aspect of interpreting the paintings is the ability to distinguish between genders. This distinction was possible because the San paintings illustrate the unique behaviours of female and male elephants. Adult females and their dependent offspring live in tight-knit family groups, while adult males live in small bond groups and have more solitary, independent lives (Poole 1997). This informed our interpretations of different groupings of elephants in the paintings. For example, a large elephant with a small elephant directly in front of, behind or underneath are a mother and her calf. A large group of elephants consisting of four different relative sizes and a single large elephant is a female family unit led by a matriarch (Fig.10). A group of elephants of similar size and without small elephants present is interpreted as a male bond group. A very large elephant standing close to, walking towards, or running next to another elephant is a male and female elephant in consort during the mating season. A single large elephant is a solitary bull elephant. Similarly, in the paintings of people, the San artists broadly depict San males with a penis and usually carrying a bow, quiver and hunting bag (Fig. 3b) or wearing a kaross. Females are broadly identified by breasts, digging sticks, and skirts or aprons.

The second stage of analysis, understanding, goes a step further to consider cultural, behavioural and iconographic knowledge contained in the painting. This requires input from anthropological and elephant behavioural knowledge to decipher what the San artists intended to portray in each painting. Here, the spatial relationships and interactions between the elephants and the San figures are most important. At this level, the relative movements of the San and elephants become very important; for example, whether the elephants and San in the painting were moving in the same direction or different directions. Were the San figures superimposed on top of the elephants or walking beside them? Equally important are painted sounds, a notable feature of San depictions of social events and of elephants themselves (Figs. 8 and 10). The Cederberg San paintings frequently depict scenes of reverence and celebration, with people singing and dancing, clapping hands and making handprints, activities associated with significant San life-cycle celebrations such as birth, mating and initiation ceremonies. The behaviours of the elephants and San figures in the paintings provide the key to understanding the relationship between the San and elephants millennia ago.

The third stage, interpretation, is the most sensitive and critical part of Panofsky's analysis. This level considers personal, technical, and cultural history, looking at art not as an isolated incident, but as the product of its historical context. The historical context of the paintings analysed in this article covers a period of 7,000 years (Deacon 1994). Thus, each painting embeds a store of cultural knowledge that was meaningful and significant to the San people (Biesele 1993). The San did not have a written language. They relied solely on storytelling and painting of the celebration of life cycle events to preserve their mythology and culture.

Results

The objective of this study was to describe, understand and interpret the San paintings as accurately as possible. Specifically, we aimed to identify the behaviours of both the San and elephants, and their contexts, depicted in the paintings. We chose 17 painted Cederberg rock art sites out of a total of 60 sites to highlight specific aspects of the relationship between the San and elephants.

[1] https://www.elephantvoices.org/elephant-ethogram.html

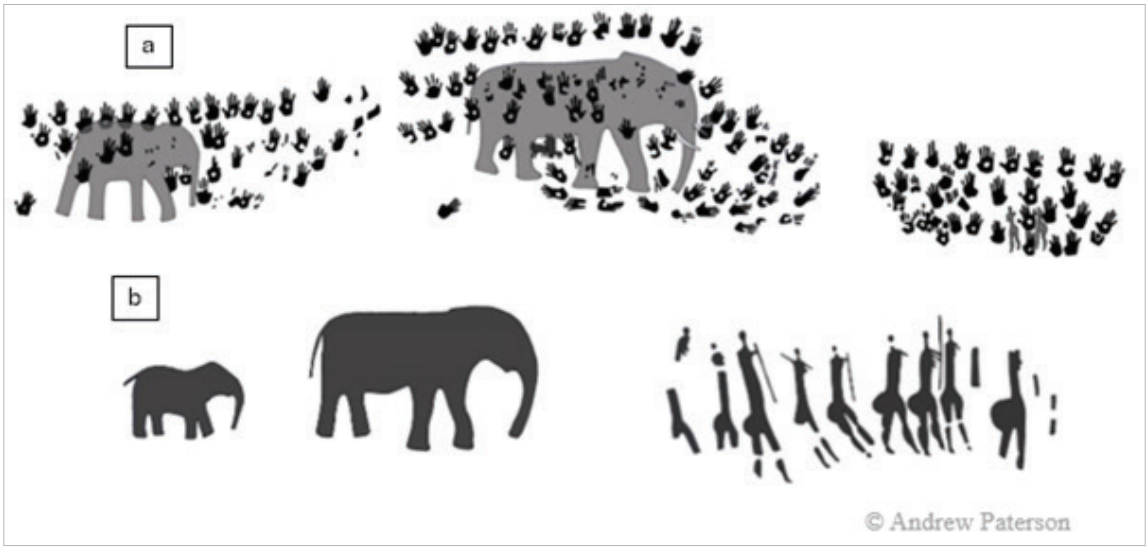

Figure 5. (a) **Steenkampskloof**. Elephant mother's pregnancy and pending birth are celebrated with handprints and San women singing and dancing. (b) **Brakfontein** Female elephant and her previous offspring with San women singing and dancing and holding digging sticks out in front of them.

Steenkampskloof and Brakfontein: pregnancy and weaning

The Steenkampskloof painting (Fig. 5a) consists of two yellow elephants walking in the same direction, one behind the other, and with a large gap between them, and with two dancing San women facing them. More than 135 red handprints are deliberately superimposed on top of and the figures. The larger elephant in front (78 cm) is the mother and the smaller elephant (34 cm) from its proportions, her juvenile calf. The Brakfontein painting (Fig. 5b) has the same arrangement of two elephants (15 and 7 cm) but with nine San female figures singing and dancing in front of them, holding digging sticks, and no superimposed handprints.

Females give birth to their first calf between 10 and 20 years of age. Thereafter, depending on food availability, females can produce a calf every four to six years (Poole 1997). At birth, newborn elephants are welcomed into the tightly knit female elephant society by loud roaring and rumbling from the older relatives. Young calves continue to suckle until they are between four and six years old. Typically, these older "calves are then weaned amidst loud protests, when their mother is in late-stage pregnancy preparing for her next calf" (Poole 1997).

We interpret these paintings to be illustrations of a female elephant in the late stage of pregnancy, is in the process of weaning her current juvenile calf. The San women, with their intimate knowledge of elephant behaviour and childbirth, would have known that birth was imminent by observing the distance of the calf behind its mother. The handprints (Fig. 5a) and digging sticks (Fig. 5b) are the artist's rendition of women celebrating this significant upcoming female event and their own fertility and the role of motherhood—elements crucial to the survival of the San people. This painting honours pregnancy and signals the beginning of a new life cycle. The artists who created these works were likely women, given the focus on female-oriented themes.

Zuurvlakte: birth

This painting is located on an outcrop of sandstone adjacent to a large salt pan. It shows two elephants rendered in yellow ochre, one large (105 cm) and the other tiny (9 cm) by comparison, suggesting a mother and her newborn calf. Both elephants are facing in the same direction (Fig. 6a). The calf has an unusually long painted line trailing behind it that is most likely an umbilical cord (Fig. 6b). This corresponds to field observations that a newborn calf can stand within an hour of birth (Poole 1977); while the dragging of an umbilical cord may continue for up to two days after an elephant has given birth. (Moss 1988).

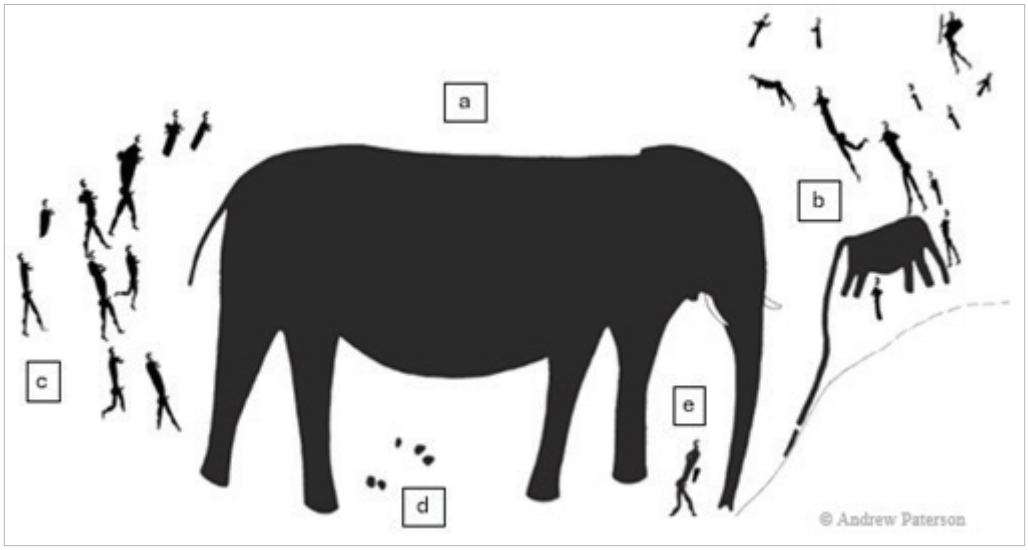

Figure 6. **Zuurvlakte** (a) A very large female elephant. (b) A newly born baby with an umbilical cord still attached. (c) San males, unarmed, celebrating the birth of the baby elephant. (d) Yellow paint marks where the baby would have first touched the ground at birth. (e) A single San male, very close to the elephant`s trunk.

The umbilical cord was an important aspect of birth for the San. According to Marshall (1997), after giving birth, a female relative/woman cut the umbilical cord with a small stick leaving about seven inches of the cord protruding from the baby's navel. The cord dried and shrivelled over a period of three days before it naturally fell off. The mother kept the baby's umbilical cord in a small, decorated leather pouch, specifically made for this purpose, and it was hung from thongs around the mother's neck. The umbilical cord was kept to safeguard the baby's health. When the child reached about four years old, the San mother then ritually disposed of the umbilical cord.

The San figures in this painting are all men, encircling the two elephants and facing inwards toward them (Fig. 6c). The figures have been drawn with their arms in the air. None of the men have bows or arrows in their hands. Neither of the elephants exhibits signs of stress or being hunted. The attitude of these men is one of excitement and celebration. One reason for the absence of female figures in San art may be that young San girls were prevented from witnessing any form of childbirth, as it was believed that observing a birth could instil fear and dread of childbirth in them (Marshall 1997). Similarly, San men are also prohibited from witnessing a San woman giving birth. However, they would likely have encountered elephants giving birth, which might explain their presence in the artwork. A similar painting of San males witnessing an elephant female giving birth exists at a site called Springbokoog, some 500 km away.

We suggest that this painting represents San men witnessing and celebrating the birth of an elephant calf (Figs. 6a, b). The San men were probably present during the actual birth to learn about the birthing sequence of labour contractions, breaking of the water, and the importance and function of the amniotic sac and umbilical cord. The San believe that at the instant the uterine fluid touches the ground (Fig. 6d), the vital force called *n!ao* is produced inside the baby. This, they believe, is the same force that determines the weather, including rainfall and seasonal dryness or cold (Marshall 1997). Adjacent to this painting, on the same outcrop, is a painting of two large eland with rain symbols superimposed on top of them. Finally, a single San male is walking very close to and in the same direction as the mother elephant (Fig. 6e), suggesting a close personal relationship between certain elephants and the San. This interpretation would support the idea that the San paintings themselves were a vital means of preserving and passing on fundamental birthing knowledge to San males and celebrating a new cycle of life.

Tandfontein, Bo Tuin and Voëlvlei: movement, space and leadership in female family units

In the Tandfontein painting (Fig. 7a), the lead elephant (10 cm) in a female family unit is depicted with her head and trunk raised, scenting a set of rain and cloud symbols, and is leading the group towards the rain. Over 65 rain images have been observed at 30 rock art sites throughout the Cederberg (Paterson 2018). Field observations of elephant behaviour reveal that the position of the elephant's trunk, and particularly the trunk tip, is highly informative, providing subtle clues to behaviour that is occurring or an interaction that is about to take place (Poole 1997).

The Bo Tuin painting (Fig. 7b). illustrates 16 elephants with a matriarch (13 cm) and family unit comprising three generations. The elephants are standing close together and facing in both directions. They appear to be alert and forming a protective circle, which is an accurate representation of how a family unit stands at night.

The Voëlvlei painting (Fig. 7c) illustrates a small female family unit of six elephants walking from left to right. The matriarch (15 cm) appears to be at the rear and an assertive female is leading the group. This straight-line formation is normally adopted by elephants as a means of protection and managing their young when walking from one place to another. This same formation is used by the San themselves when walking from place to place, and for the same reason, namely protection (Johnson 1979).

These three paintings, over 40 km apart, clearly show elephant female family units. Such paintings of elephants, measuring between two and ten centimetres, are found across the Cederberg area. As female family units dominate elephant social structure, they were likely to be encountered regularly by the San. The accuracy and rendition of the natural behaviour of the elephants in these three paintings confirms the San's intimate understanding of elephant behaviour. The San perceived that the elephants had their own characteristic behaviour which was governed by their customs *kxodi* (customs), and each had its particular *kxwisa* (speech, language). Elephants are believed by the San to have acquired special capabilities by means of rational thought (Liebenberg 1990).

Salmanslaagte: courtship and celebration

This painting is within one of the largest single shelters depicting San and elephant paintings in the Cederberg, stretching over 30 m across.

There are seven elephants in this painting composition. We interpret the four elephants on the left (Fig. 8a) as females, and the three elephants on the right

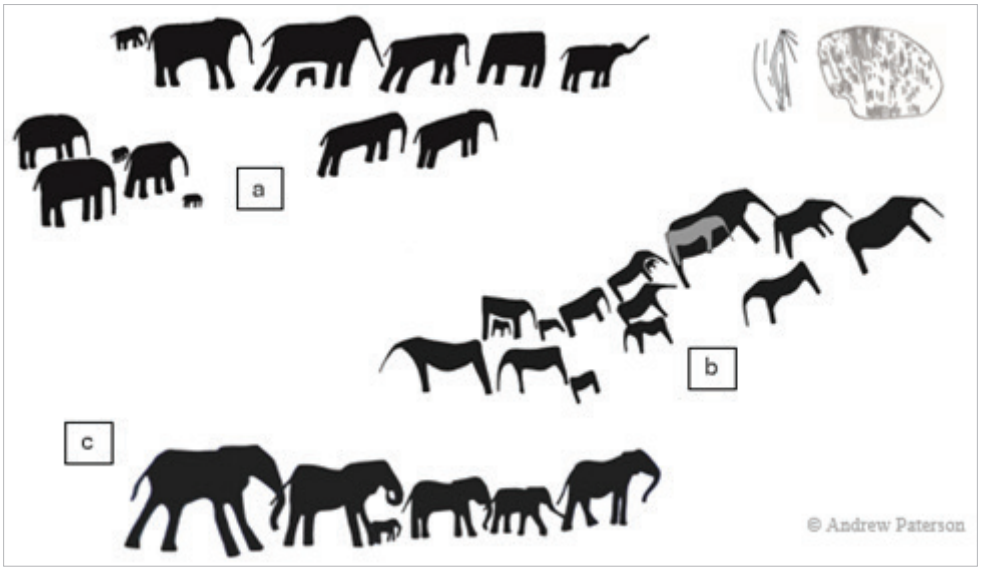

Figure 7. **Tandfontein** (a) Elephant female family unit being led toward a set of rain symbols with the foremost elephant scenting. **Bo Tuin** (b) Elephant female family unit with young standing and facing both directions. **Voëlvlei** (c) Family unit walking in single file with the matriarch in the rear.

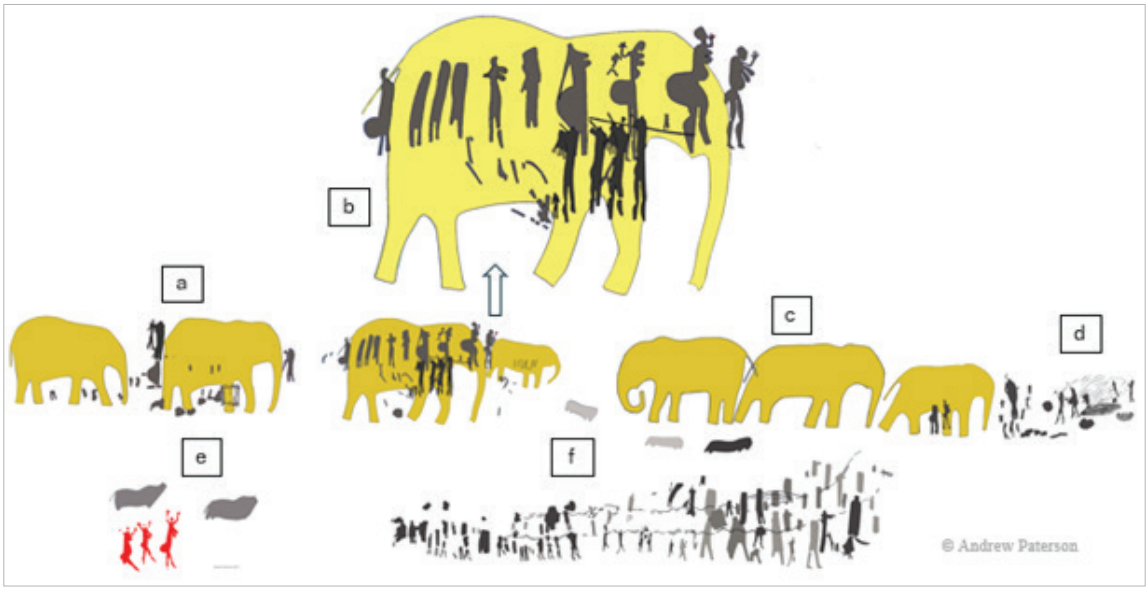

Figure 8. **Salmanslaagte** (a) Three large female elephants guiding a younger female towards a bull. (b) Enlargement of the central female matriarch with dancing female figures superimposed. (c) Bull elephant facing the female elephants, with trunk lifted to his mouth and two other bull elephants behind it. (d) Dancing San men with rain and cloud symbols. (e) San women singing and dancing with eland torsos. (f) Parallel lines of San people dancing on sound lines with eland torsos between them and the elephants.

(Fig.8c) as males. The male elephant closest to the female elephants has its trunk curled up toward its mouth. The left-hand group of female elephants has been painted as converging on the three standing male elephants, and this convergence takes place at the centre of the composition in the shelter. The focal point of the painting is a large female elephant (14.5 cm) (Fig. 8b), who is guiding a much smaller and younger female elephant (7.8 cm) in front of her.

We interpret this painting as depicting a matriarch guiding a younger female member of her family unit, who is in oestrus for the first time, towards a bull of her choice (Moss 1988). She is guiding the younger female through the steps that precede the act of mating (Poole 1997). This is a risky time for an inexperienced young female, who often finds herself chased by several younger bulls, all attempting to mount her. The bull elephant (Fig. 8c) facing this youngest female elephant in the painting appears set to roll the tip of his trunk to the back of his mouth to reach the duct leading to the vomeronasal organ, to assess the female's reproductive status (O'Connell 2007).

A group of 10 San females, led by two older females, are vigorously clapping their hands, singing and dancing, superimposed on top of the leading matriarch (Fig. 8b) at the centre of the composition. Four San men with bows slung over their shoulders are walking in full hunting regalia directly below these dancing women (Fig. 8b). A rain symbol and two cloud symbols (Paterson 2018) and dancing San males appear on the far right of the composition (Fig. 8d), while three dancing women and two eland torsos are to be found on the far left of the shelter (Fig. 8e). More than 60 San men and women with children are singing and dancing in two lines (each about 180 cm in length) below the elephants (Fig. 8f). Three eland torsos have been painted above this long line of dancing figures. The San people are clearly focused on the behaviour of the elephants, and the mood is one of excited celebration.

Eland and rain paintings are of great symbolic importance to the San. Elands symbolise abundance and well-being. As mentioned above, the vital force *n!ao* plays a key role in San mythology, connecting men's and women's procreative powers of hunting and childbirth to the polarities of weather, which are vital importance to hunter-gatherers. Indeed, life and death are closely bound up with the vagaries of the weather (Biesele 1993). Animals are used as metaphorical operators to steer humans away from undesirable states and towards desired ones of maturity, individual

and social well-being, and safety (Biesele 1993). The painting appears to depict the natural mating behaviour of elephants and the weather, to symbolize and celebrate the San's own important life cycle events, such as procreation.

Stadsaal: elephant and human male bond groups

This painting depicts a group of six elephants (Fig. 9a), standing in three rows and facing in both directions, which is a natural position for elephants called an alert circle.

Except for one slightly smaller calf, there are no calves or juvenile elephants among the group, which could be a subadult. We take this to be a male bond group (Fig. 9a). The uppermost elephant is an incomplete line drawing (15 cm). It is larger than the others, with small tusks just visible, and appears to be the dominant elephant in this bull group (Paterson and Parkington 2016). Tusks on elephants are rare in the Cederberg, which could be due to white pigment weathering faster than the regular red or yellow ochred pigments. To date, no panels of elephants with clearly large or long tusks have been discovered. The white paint was made from substances like gypsum, kaolin clay, bird droppings, or powdered ostrich eggshells. This was then mixed with binders like blood, egg white, or animal fat to create the white colour, which, over time, has proved less robust than darker colours. (Mullen 2020)

The painting also depicts a group of 18 San males arranged in three rows, facing the three rows of elephants. The group of young San men in the top row standing opposite the largest elephant (Fig. 9b) are naked, while the other San males are dressed in karosses (Fig. 9c). This is suggestive of the San initiation ceremony known as *Tshoma* (see next panel). The elephants in the painting are depicted as being aware of the San; at the centre of the composition the youngest elephant is scenting a San male (dressed in a white cloak) with its extended trunk. This suggests a connection and mutual respect between San men and male elephants. The San were cognizant of the importance of the elephant's trunk |(*ai jako*) for multiple forms of communication. For example, San informants described to Bleek and Lloyd (1880) how the elephant "uses its trunk like a hand". The painting projects the image of a natural and harmonious relationship between the two groups. It is quite probable that the San knew all the various male elephant bond groups within their hunting area (Fig. 9c).

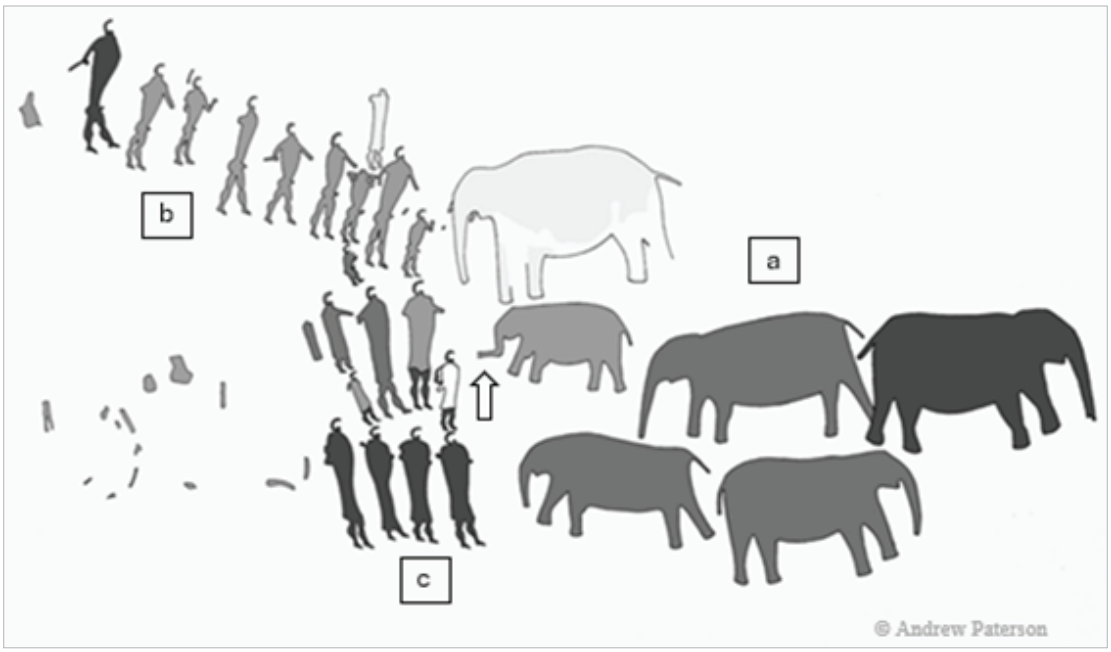

Figure 9. **Stadsaal** (a) An elephant male bull group standing in an alert circle. (b) A line of naked San males facing the dominant bull. (c) Two rows of adult San males wearing kaross cloaks.

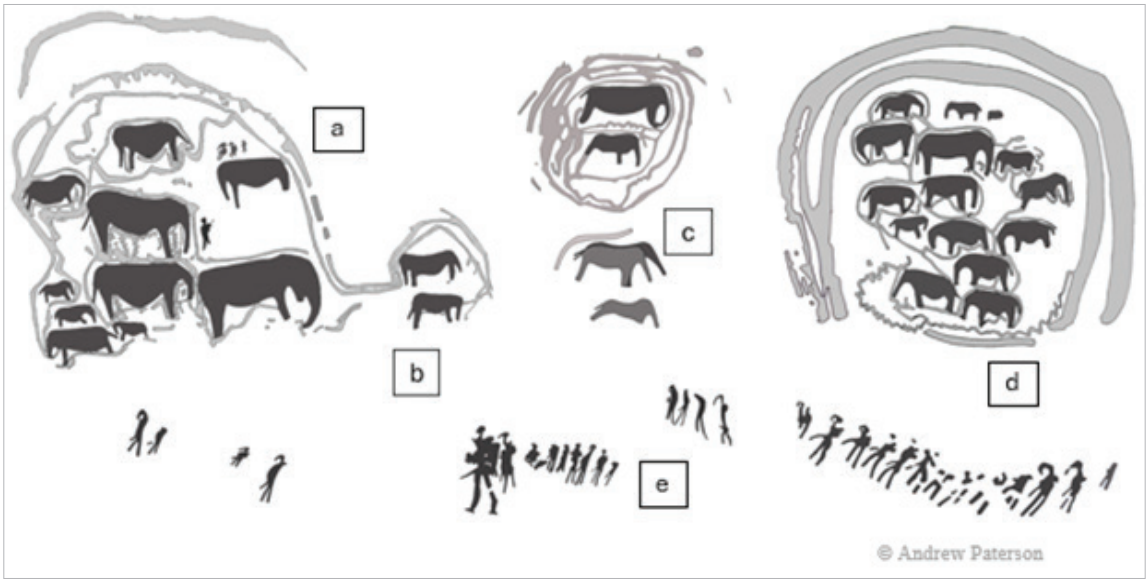

Figure 10. **Monte Cristo** (a) Female family unit. (b) Two young bulls who have been ejected from the family unit. (c) Male and female elephants consorting. (d) Female family unit. (e) San men participating in a male initiation ceremony, singing and dancing with elephanthropes, the ancestors of the elephants, with both elephants and people in musth.

Monte Cristo: male initiation and affiliation

This is a large painting of two female elephant family units (Fig. 10a–d) with lines of San male figures dancing in close formation below them (Fig. 10e). These lines of figures are made up of both San men and male 'elephanthropes', regarded by the San as mythical people with elephant heads and human bodies (Paterson 2019). Elephanthropes are a form of therianthrope, a term derived from the Greek words *Therion*, meaning beast, and *Anthropos*, meaning man. Their appearance in this painting suggests that the San are dancing with their ancestors in the 1st Creation, and with the ancestors of the elephants, shown as elephant-headed people.

The painting depicts the two female family units (Figs. 10a, 10d) to the left and right and, between these, a pair of subadult bull elephants (Fig. 10b), ready to leave their family units and join a male bond group when they arrive during the breeding season, and two pairs of male and female elephants in consort during the breeding season (Fig. 10c). The entire painting is only 107 cm wide with elephants ranging in size from 1 to 7 cm.

This would be a typical scene at the end of the rainy season when the male elephants go into musth and move down to the female areas to seek out females in oestrus. It is common for male elephants in musth to consort with females from one to four days, during which period they mate regularly (Moss 1988).

The dancing San males and elephanthropes (Fig.10e) have distinctive long and enlarged penises, similar to those of a bull elephant in musth. The San male Tshoma initiation rite is marked by the rising of the Pleiades in mid-June, which is the coldest time of the year (Marshall 1999). Most of the rainfall in the Cederberg region occurs during the winter months, from June to August. All these features combined in the painting (Fig.10) suggest that the artist is illustrating a San male initiation ceremony that symbolises the transition from the 2nd creation into the 1st creation, and back to the 2nd creation again. The initiation represents the San male's movement from boyhood to manhood.

The ceremonial male dance depicted here is the *Tshxai !Go*, or Men's Dance (Marshall 1999). By depicting both San men and elephanthropes in musth, this painting affirms the close symbolic connection between San and elephants, first proposed by Townley Johnson in his commentary on the tracing of painting from this site in 1962 (Fig. 3a) (Townley Johnson 1979).

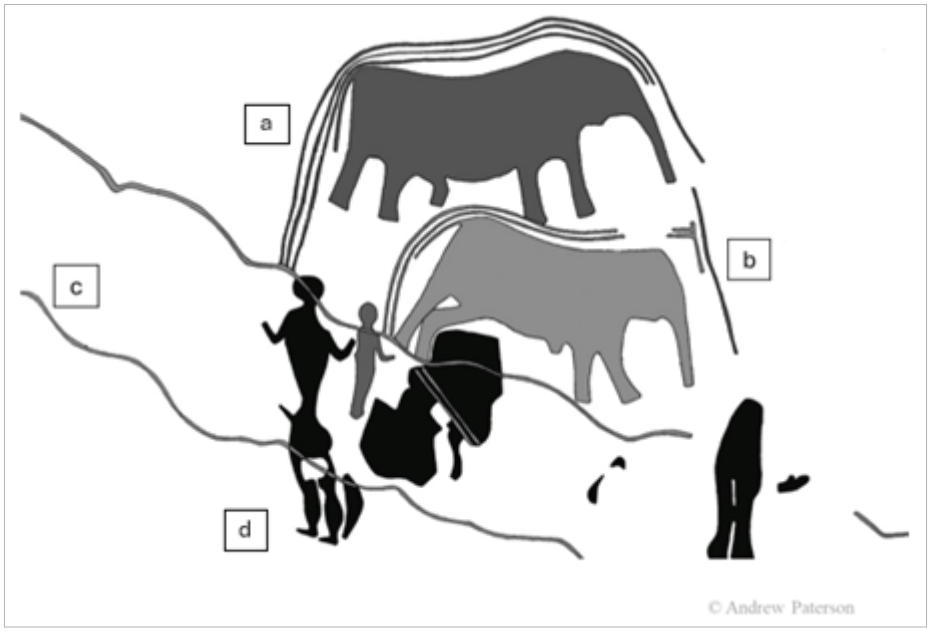

Figure 11. **Klipfonteinrand** (a) Bull elephant in musth with triple sound lines. (b) female elephant in oestrus with double sound lines. (c) Large pulsating female chorus sound lines. (d) San male and female observing the elephants mating.

Klipfonteinrand: mating and courtship

This painting is located at the entrance to a deep well-defined cave filled with numerous paintings of San males, eland torsos and fingerprints. There are two elephants on the left side of the cave entrance. The larger elephant is above and directly behind the smaller elephant with both elephants running in the same direction. The rear elephant (14 cm) has an extended penis (Fig. 11a), and the front elephant (11 cm) appears to have breasts (Fig. 11b).

There are different sets of fine parallel red lines surrounding each elephant and connecting them both to a large set of wide, pulsating parallel lines below (Fig.11c). This large set of lines, about two meters in length, runs into the cave along the left wall. Superimposed on them are two San figures, one male and the other female, standing facing the elephants. These parallel pulsating lines, that run into the cave, connect to another group of San males and eland torsos.

We interpret the lines surrounding the two elephants as sound lines (Paterson 2020). In this interpretation, the three fine parallel lines surrounding the male (Fig. 11a), represent the sounds made by a male in musth (Moss 1988), while the two parallel lines surrounding the female (Fig. 11c) represent the sounds of a female in oestrus, when pursued by the male (Moss 1988). These two sets of lines are connected to the widely spaced set of parallel pulsating lines (Fig. 11c), which represent the female elephant chorus typically heard from other females in the family unit during mating (Moss 1988; Poole 1997). The presence of San figures in the painting is significant in that it illustrates that the San were acutely aware of the specific sounds associated with elephant mating behaviour. Again, the San are showing respect for this significant life cycle event.

Sevilla Trail: non-confrontational encounter

This painting is of a single elephant (17 cm), possibly a young bull elephant (Fig. 12a), facing right with its head lowered and three San men directly in front of it (Fig. 12b). Two of the men have hunting bows that are not drawn. The front San figure without a bow is crouching down and facing the elephant directly. The second figure is beckoning to a third figure behind him to come towards them. The third figure in the rear is walking cautiously, with bow down, and towards the elephant.

There is no sense of hunting, stress or antagonism in this painting. The elephant is interacting with the three

Figure 12. **Sevilla Trail** (a) Single elephant aware of the San figures in front of it. (b) Three San men cautiously approached the elephant, gesturing to one another and with their bows lowered.

San males in a non-threatening way. There are specific San individuals in the San communities who lead the elephant storytelling occasions, and songs and dances at the San healing ceremonies. They have been called "owners of the feeling for elephants" (Keeney and Keeney 2015). This painting may illustrate such an individual, with an affinity for elephants, interacting with an elephant.

Bushmanskloof: confrontation

This dramatic painting (Fig. 13) suggests a dangerous confrontational situation between a mother elephant, her baby and two San males. The two elephants, one large (9 cm) with its tail erect and the other small (3 cm) with its trunk raised, are very close to, and appear to be challenging two San males, who are facing the elephants with drawn bows.

This painting was called 'The Elephant Hunt' by earlier researchers. The San appear to have fired as many as seven arrows into the head of the larger mother elephant. However, this does not appear to be a hunting scene; rather it suggests a mother elephant's instinct to defend and protect her offspring when endangered. Hunting an elephant head-on would be a very dangerous and unusual thing for an experienced San hunter to do. The numerous arrows fired directly into the elephant's head suggest that they are ineffectual and that the shooting is probably the San's defensive action. Many San people avoid consuming elephant meat today, as it is believed to resemble human flesh (Biesele 1993).

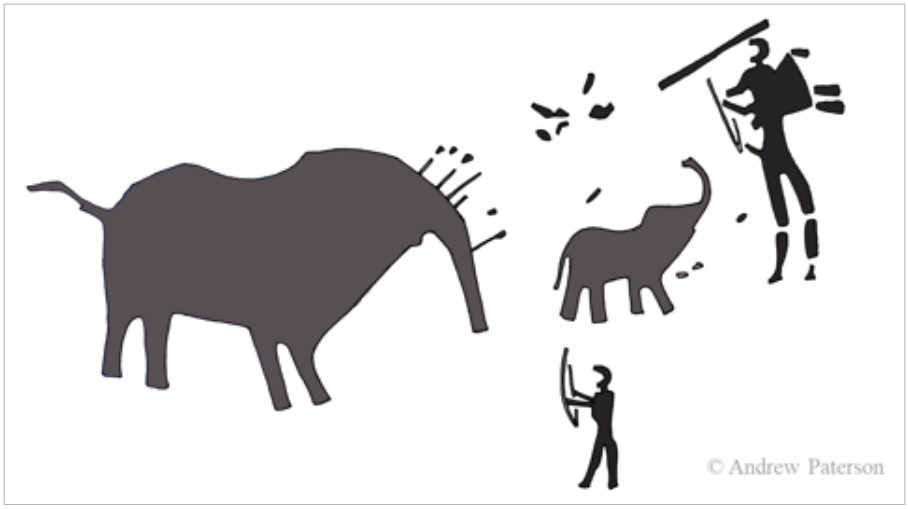

Figure 13. **Bushmanskloof** Two San men defending themselves in a confrontational situation with elephants.

Olifants River: Elephanthropes and water

This painting shows six elephanthropes (6–12 cm) walking in a single file from left to right, carrying elongated objects on their backs, tied on with thongs (Fig 14a). The elephanthropes are painted as described in San mythology: as early beings, with elephant heads, hands and feet, and human bodies, who lived in the primal time of 1st creation when elephants were people, as told by the San to Bleek and Lloyd 1880. (Paterson 2018), (Fig. 14b). The lower panels show 23 San males who appear to be participating in a San male *Tshoma* initiation ceremony in the present time of the 2nd creation (Paterson 2018; 2019). On the left, 11 adult males are standing in a line (Fig. 14c); while the right-hand panel shows two standing adults and 10 smaller figures, presumably young boys, lying scattered randomly on the ground (Fig. 14d) (Paterson 2020; 2022; 2023). Below the men and boys, torsos of eland are shown, symbolizing hunting and meat (Fig. 14e).

Townley Johnson, who traced this painting in 1962, describes this panel as a row of human figures with elephant-like heads and trunks, each carrying an unidentified object on its back. They resembled the elephant-headed humans from Monte Cristo which again suggests that the elephant was of symbolic importance to the people of this region (Townley Johnson 1979). Townley Johnson (1979), suggests that the elephanthropes in this painting are carrying woven baskets of vertically oriented ostrich eggshells filled with water. Accepting this suggestion, we interpret this painting in the light of San mythology, which recounts that it was elephanthropes "who first found water so that the San people could drink" (Biesele 2009).

The availability of and access to water is critical for the survival of both elephants and the San. Elephants can pick up the vibrations of thunder more than 100 km away (O'Connell 2007) and start moving towards it before other animals. Elephants are also able to locate running water below dry riverbeds using their ultra-sensitive feet. The San were well aware of these elephant characteristics and relied on elephants finding water in drought conditions.

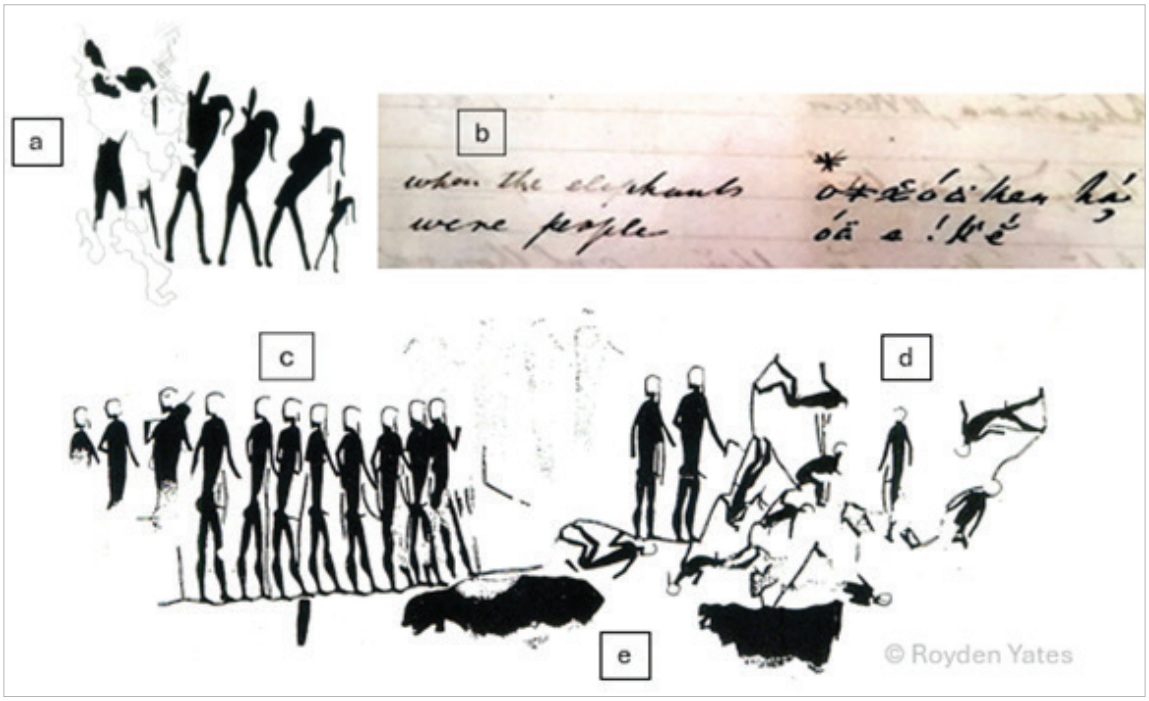

Figure 14. **Olifants River** (a) Elephanthropes carrying baskets of ostrich eggshells filled with water. (b) "When the elephants were people" (Bleek and Lloyd 1880). (c) San men participating in an initiation ceremony connected by lines of *n|om*. (d) Following an initiation ceremony young San boys lie on the ground recovering from the experience. (e) Eland torsos, symbolic of hunting and meat.

Other features of the painting support this interpretation. The cross-hatched marks above the head of the largest elephanthrope, at the rear of the group (Fig.16a), appear to be a rain symbol, similar to others encountered throughout rock art panels in the Cederberg (Paterson 2018). The location of the painting site may also be site-specific, as it is only about 50 m from the Olifants River, where the river's banks narrow significantly with cliffs on either side, in which the site is situated.

Finally, we interpret the thin red parallel lines connecting each of the standing San men in the painting to each of the young initiates lying on the ground (Fig. 14d) as lines of *n|om*. This vibratory life force animates all living beings. The same lines connect the San to the eland torsos below.

The whole composition can be seen as a depiction of the San celebrating the significant life cycle event of boys becoming men at an initiation ceremony, and highlighting the importance of water for the survival of the San, and elephants.

Rietvlei: rain symbols

The focal point of the painting is two adult elephants (14 cm) facing one another head-to-head (Fig. 15a) with a smaller elephant above them with an extended trunk. The two large elephants appear to be drinking from a water hole that they have dug in a dry riverbed. Superimposed on the central elephants is a single, large vertical male rain symbol (Fig. 15b) (Paterson 2018). The San distinguish between male and female rain, which are shown differently in the paintings. Male rain symbols converge at the top and spread out towards the base. This large male rain symbol appears to be associated with a near-vertical lightning symbol (Fig. 15b). Female rain symbols consist of a series of short parallel lines that emerge from and connect to a single horizontal line above them (Fig. 15c) (Paterson 2018), or sometimes to a line of finger dots (Fig 15d). Finger dots and handprints are associated with the sound of women clapping their hands.

In each of the three lower panels, San figures, male and female, are shown dancing and singing in the midst of rain, among the elephants and eland symbols. We interpret this as a celebration of life, survival and protection from starvation, to which all the most

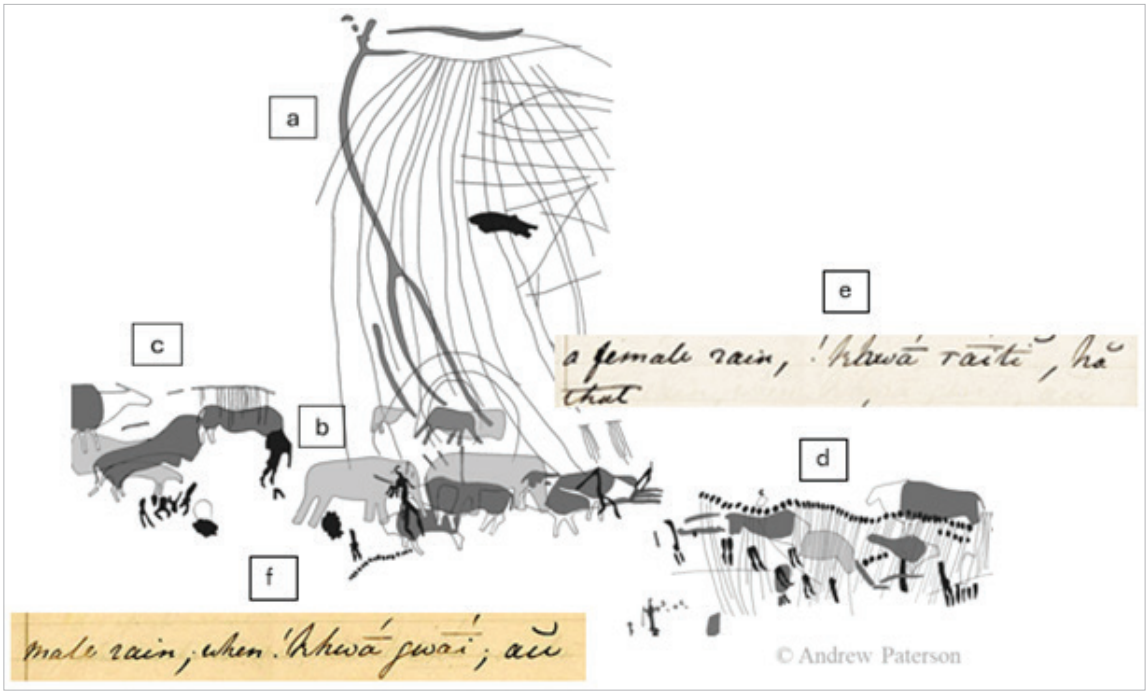

Figure 15. **Rietvlei** (a) Two elephants standing head-to-head and drinking at a waterhole with eland and dancing figures superimposed. (b) Male rain symbol with a lightning bolt. (c) Four elands with female rain symbol and dancing figures. (d) Four elands with a female rain symbol and 13 male and female figures. (e) San word for female rain. (f) San word for male rain.

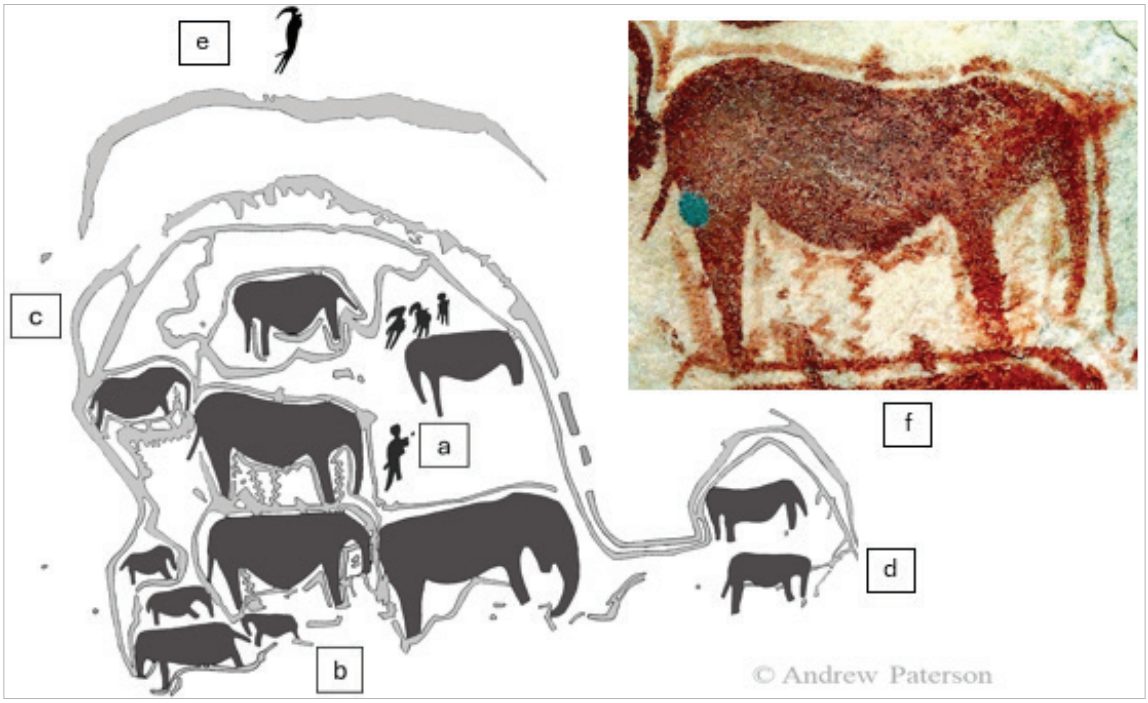

Figure 16. **Monte Cristo** (a) San figure and elephanthropes among the elephants. (b) Elephant female family unit enclosed by sound lines. The lines touch all their body parts that send and receive sound. (c) Set of parallel lines surrounding the entire family unit and two young bull elephants. (e) Sound wave moving up and away towards other family units in the area. (f) D-Stretch image of sound lines surrounding the elephant at the centre of the family unit.

frequently performed San rites and informal ritualistic practices are directed (Marshall 1999).

Monte Cristo: female sounds and communication

This enlarged portion of the painting at Monte Cristo (see Fig. 10) ranks as one of the most important elephant paintings in the Cederberg. It is believed to illustrate elephant sound and communication and, dating from between 1500 and 3500 years ago, is possibly the first painted rendition of sound in African rock art (Paterson 2007; Paterson and Parkington 2016). There are 12 elephants (1–7 cm) in this painting, comprising a single female family unit (Fig. 16a). As stated earlier, the fundamental component of elephant social structure is that of a female family unit and its dependent offspring living in a tight-knit stable family group. Each elephant begins its life within a family unit (Poole 1997), which consists of a matriarch and up to four generations of offspring.

There are thin, wavy/zigzag lines surrounding each elephant in this family unit and connecting all the elephants in the family to one another. We interpret these as sound lines, since they are shown contouring and connecting the various elephant body parts (Fig.16a; 16b;16f) associated with elephant sound and communication, namely the head, throat, trunk, stomach and feet (Paterson 2007; Parkington and Paterson 2017; Paterson 2025).

A second set of larger parallel lines, connected to these internal lines between the elephants, surround the whole family unit (Fig. 16c). There are also two smaller elephants connected by this set of parallel sound lines (Fig. 16d) We propose that these two young bull elephants have reached sexual maturity and, as a result, have been pushed to the periphery of their family unit. Although they are distanced from the main group, they still maintain communication with their family. They appear poised to leave once the next male bond group arrives during the breeding season. Finally, a third broad single sound line (Fig. 16e) appears to be radiating up and away from the family unit towards other possible elephants in the area. Elephants emit a broad range of sounds from low-frequency vibrations to high-frequency trumpets.

Figure 17. **Floreat** (a) A male elephant bond group, surrounded by sinusoidal waves, communicating with one another and with (b) a second male bond group. (c) "And the elephant again said rrrr" (Bleek and Lloyd 1880)

In all, some 60 different elephant calls are known, with rumbles being the most numerous and complex class of at least 30 elephant calls, which are used for long-distance communication, and can be sensed by other groups of elephants a long distance away. All of the rumbles contain components below the level of human hearing, with some being totally infrasonic (Poole 1997; Mortimer 2018: Helm et al. 2024).

This painting suggests that the San had an in-depth understanding and appreciation of the communication system and social structure of elephants, which they associated with their own social structure and communication system, vital to their survival.

Floreat: male communication

This site is located on a large, isolated rock outcrop, in the open valley of the Olifants River, near Citrusdal. There are two groups of elephants (4–6 cm) in the painting, one of three (Fig. 17a) and the other of four elephants (Fig.17b). The elephants are all similar in size, which suggests they are a male bond group, and are standing head-to-head, which is a typical stance when communicating. Surrounding each group of elephants is a set of precisely drawn sinusoidal waves connecting all of the elephants. We interpret these sinusoidal waves as vibrating sound lines. They, in turn, connect to sets of zigzag lines radiating up and away from the two groups of elephants, similar to in the previous painting of a female family unit.

This painting illustrates that the San clearly understood and appreciated the structure of elephant male bond groups. They also understood that good communication and group coordination among bull elephants is vital to their survival. When not in breeding season, elephant bulls prefer to stay in their own territory separate from the females. Although San men do not have a seasonal separation from women, as do elephants, San men do form powerful bonds in male-only hunting groups.

The most striking aspect of these Floreat elephant sound lines is that they have been drawn as near-perfect sinusoidal waves. According to Bleek and Lloyd (1880), their San informant described elephant sound in general when he referred to: "elephant again said *rrrr*" (Fig. 17c). They also recorded the word *!nhuru*, meaning to make a trilling noise. The San would have understood that elephants produced regular vibrating sounds and painted these *rrrr* sounds as sinusoidal waves. It is also quite possible that the San felt the same "pulsating vibrations and throbbing in the air" made by elephants that were described by the elephant behaviouralist and acoustic biologist Katy Payne, in the account of her pioneering studies of elephant communication in 1984 (Payne 1998).

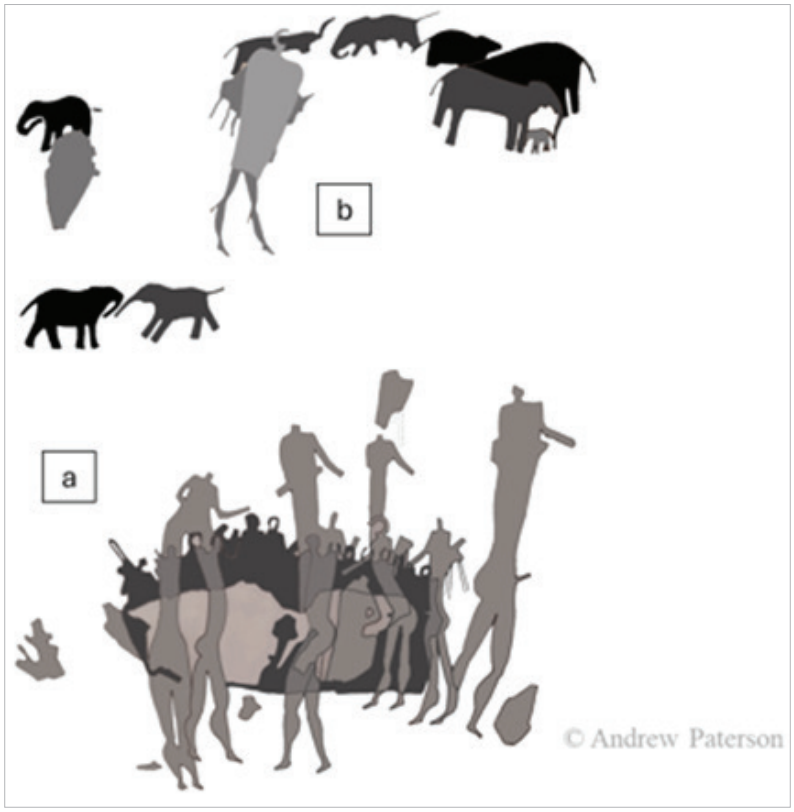

Figure 18. **Sevilla Trail** (a) Singing women seated next to a fire with men dancing in a circle around them. (b) A female family unit of nine elephants surrounding a single San male wearing a kaross.

Finally, the San could have associated the low-frequency rumble of thunder in the distance with the low-frequency rumble of bull elephants. Elephants were regarded by the San as "rain animals" (Woodhouse 1992), and, in San mythology, the elephant was the one who first found water, and "caused the rain to fall so that the San could drink" (Biesele 2009).

Sevilla #1 Trail site: dance and play

The focus of this painting is a group of at least 15 San figures seated in a circle on the ground (Fig. 18a). Nine male figures are dancing around these seated figures. Above these singing and dancing figures is an elephant female family unit composed of nine elephants (6–9 cm) (Fig. 18b). Two sets of elephants appear to be playing socially. Standing in the centre of this group of elephants is a single San male figure wearing a kaross and carrying a hunting bag slung over his shoulder (Fig. 18b). Again, there is no sign of tension or hunting in this painting.

We interpret this painting as a healing dance, when women typically sit on the ground around a fire, singing and clapping in harmony. The men sing and dance in a circle around the women. There are a number of San medicine songs; many of the songs are named after strong animals. (Marshall 1999). One of the most important of these is the elephant dance (Biesele 1993). Known as *!xo`djxani*, this powerful healing dance awakens the vibrating life force *n/om* of inspired energy that animates all living beings, bringing the San close to their Creator God *!Xun!a`an*. (Keeney and Keeney 2015). The elephant dance would typically be led by a San elder known as the "owner of the feeling for elephants" (Keeney and Keeney 2015).

This Sevilla painting of San people singing and dancing, with elephants surrounding an 'owner of the feeling for elephants' above them, depicts the special healing relationship between San and elephants.

Discussion

San rock art paintings reflect the San's mind, culture, and attitude towards the elephants in their environment. Their art is uniquely accurate in its rendition of the behaviour of the elephants, of the San themselves, and the natural interactions between these two perceived beings.

For ease of comprehension, our interpretations of the painting are summarized in a single table (Table 1), showing how they relate to San behavioural contexts described by anthropologists and elephant behavioural contexts described in the Elephant Ethogram (Poole 2021). Behavioural context refers to the circumstances or setting in which a behaviour takes place. We identified these contexts by examining and comparing the behaviour of the San figures and of elephants in each painting. It is assumed that the behavioural contexts painted in these 17 sites would have been witnessed by the San artists themselves. Each painting depicts elements of specific significance to the San people, which are meant to be preserved, as part of their integrated knowledge system and handed down to future generations (Kelley 2016). The importance of behavioural contexts in the rock art is that they portray the depth and variety of relationships between the San and elephants. This paper and the summary results Table 1 are intended as an entry point for future study of San's rock art paintings and mythology; they provide a heuristic framework for understanding the complex, multifaceted San traditions of relating to elephants (Biesele 1993).

The significance of these paintings lies in their ability to codify and condense meaning. This condensation is achieved in part by "eliminating the redundancy of reference" (Biesele 1993). In other words, it stems from the various interconnections suggested by the specific attributes of the elephants depicted in the paintings. When experiences from one context can be applied metaphorically to other contexts, it enhances mental efficiency. This process of condensation allows a smaller set of experiences to create a greater impact. In essence, paintings and mythology have a multiplier effect, amplifying the significance of the San people's encounters with elephants (Biesele 1993).

Together, these paintings and mythological contexts contribute toward an overarching theme of

Table 1. Our interpretation of the San and elephant behavioural contexts depicted in the figures.

SAN AND ELEPHANT BEHAVIOURAL CONTEXTS							
Figures	SITE DESCRIPTION AND LOCATION	SAN ROCK ART SAN and ELEPHANT Behavioural Contexts	ETHOGRAM ELEPHANT Behavioural Contexts	Sites analysed 17	Elephant paintings 122	San figure paintings 201	Elephanthrope paintings 25
5	Steenkampskloof, Brakfontein	Pregnancy	Weaning	2	4	9	
6	Zuurvlakte	Birth	Birth	1	2	22	
7	Botuin, Tandfontein, Voëlvlei	Female family unit	Movement	3	36	0	
8	Salmanslaagte	Courtship	Courtship	1	7	87	
9	Stadsaal	Male bond group	Coalition	1	6	18	
10	Monte Cristo	Male initiation	Affiliation	1	31	18	15
11	Klipfonteintrand	Courtship	Courtship	1	2	2	
12	Sevilla Trail #7	Non-confrontation	Attentive	1	1	3	
13	Bushmanskloof	Confrontation	Ambivalent	1	2	2	
14	Olifants River	Elephanthropes	Maintenance	1	0	0	6
15	Rietvlei	Rain symbols	Maintenance	1	3	19	
16	Monte Cristo	Female communication	Affiliation	1	12	1	4
17	Floreat	Male communication	Affiliation	1	7	0	
18	Sevilla Trail #1	Healing dance	Affiliation	1	9	20	

mutual respect between the San and the elephant in a relationship that was not harmful to either of them or their shared environment. The paintings are a record of the major life cycle events that the San celebrated and that elephant behaviour symbolized for them.

The San chose to paint elephants because their attributes bore a special significance. As the elephant paintings, used metaphorically, gather meaning over time, they provide the setting for performances in different media and contexts, such as ritual, singing and dancing, thereby promoting cognitive processes of relatedness and overcoming cognitive dysfunction (Biesele 1993). Taken together, the paintings and the metaphors they embody are not just descriptive; they create a dynamic connection between the San, the elephants, and their environment.

Present-day San communities living in the Kalahari are aware of the mythological stories referred to in this paper. The stories collected by anthropologists Marshall, Biesele and Keeney between 1950 and 2015 were recorded directly from the learned San themselves. However, the San no longer paint on rock faces or in rock shelters. Rock art accessible to modern San communities is limited to some excellent paintings at *Tsodilo* Hills and *Savuti* Channel on either side of the Okavango Swamp in Botswana. There are paintings of eland, giraffe, rhino, elephants, featuring handprints and San figures, at both these sites. The San in Botswana today know that their ancestors painted on rock. This suggests that they could be well aware of the extent of the relationship between the San and elephants in historical times, as evidenced in the rock art of the Cederberg reviewed in this paper. This suggests that the findings of this paper are significant not only from a historical perspective but also for modern-day San communities. It has the potential to revive traditional knowledge and promote contemporary coexistence between humans and elephants.

Most people in southern Africa today, including the San, do not want to see elephants destroyed; rather, they would prefer to see effective practices and policies put in place that reduce human–elephant conflict. In Botswana, for example, elephant numbers have increased, with estimates placing elephant numbers as high as 180,000. While historically some indigenous groups may have participated in elephant hunting, few indigenous people today hunt elephants. They do, however, engage with elephants in several different ways, including community-based natural resource projects, photographic ecotourism and/or safaris.

Conclusion

The San in the Cederberg, like todays' researchers into elephant behaviour, recognized that elephants were sentient beings. We now know that elephants are highly intelligent, emotional and social animals, exhibiting complex behaviour such as empathy, grief, self-awareness and tool use. These behaviours were observed by the early San people living in the Cederberg, which led to a deep affinity for elephants that is evidenced by their paintings, which depict elephant people of the early race, depicted as beings with human bodies and elephant heads, feet and hands.

There are several realms in life in which the San believe that human beings cannot act alone. Accordingly, they seek ways of transcending human limitations and bridging human and non-human worlds. In historical times, elephants, visible, powerful and near at hand, were a good choice for this purpose (Biesele 1993). According to the San, elephants had the strength and courage to transcend the natural and supernatural worlds, of the 1st and 2nd creations (Biesele 1993; Keeney 2003 allowing the San to dance with their ancestors and the ancestors of the elephants during their healing dances and initiation ceremonies.

The core behaviour of the San, illustrated in the rock art paintings reviewed in this paper appears to be a celebration of life. The analysis presents the symbolic work of painters and storytellers as thoroughly practical in effect. The work of San artists is best understood as a form of action upon the conditions necessary for the reproduction of their societies (Biesele 1993). In conclusion, the central context defining the relationship between elephants and San over thousands of years is one of mutual respect in a celebration of life and survival.

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