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BEYOND INDIVIDUAL PLEASURE AND RITUALITY: SOCIAL ASPECTS OF THE MUSICAL BOW IN SOUTHERN AFRICA'S ROCK ART

Oliver Vogels and Tilman Lennsen-Erz

Abstract. Bows in hunter-gatherer societies are not mono-functional items. Besides hunting and fighting, they may also have been used for musical purposes. Rock art in southern Africa provides a record of this use, giving way to investigating past music cultures. This paper brings together the published depictions of musical bows from across southern Africa with some new discoveries. Although depictions of bows being played as musical instruments have been recorded for decades, these scenes still lack archaeological or musicological investigation. When analysing these depictions, it turns out that there is a comparatively wide variety of technical aspects of sound production, of ways of playing and of contexts of the musical performance, indicating rich cultural diversity among the early peoples of the subcontinent. Moreover, the paintings show details in these aspects that are not corroborated by ethnographic studies. Nevertheless, they open up a tableau of the potential context variability in the musical practice of pre-History and also indicate that rock art studies should be open to finding contexts of meaning beyond the dichotomy of the purely ritual and the profane.

Introduction

Investigating pre-Historic music is a difficult task because musical performances like singing, hand-clapping or dance do not require the use of instruments. Past musical performances can thus be archaeologically invisible. Moreover, finds of musical instruments are rare because only those made of imperishable material survive from past times. And since musical instruments are not limited to particular shapes, they are sometimes hard to recognise (Hickmann 2002: 253), which even pertains to presumably depicted instruments in Palaeolithic rock art (Bahn 2015). Finds of bone flutes, on the other hand, demonstrate a use of melodic instruments since the Upper Palaeolithic.

Methodologically, pre-Historic musical instruments allow for analyses concerning technical aspects of sound production (organology), as well as morphological and notational features (Conard and Malina 2008; Lawson and d'Errico 2002). However, even if past cultural activities can be reconstructed at a site, the cultural backgrounds of the musical performances and the exact playing techniques have long been lost. The same applies to the music played on such instruments, or, as Hickman (2000: 1) states: 'melodies and rhythms are lost forever'. In contrast, pre-Historic depictions of musical performances can offer information about instrument organology and morphology as well as

playing techniques and present some indications of the sociocultural contexts. In this respect, representations of musical activities can allow a more integrated music-archaeological research — provided the identification of the instrument is based on clear evidence (Bahn 2015).

The subject of this paper is the musical bow (Rycroft 1984). Rock paintings displaying musical bow players have been recorded in regions across southern Africa (Table 1). However, analyses concerning the wider musicological, sociocultural or ethnohistorical aspects have not been undertaken. Extant studies mainly follow documentary aims, probably because each author only worked on single instances of musical bow depictions. Attempts to interpret these musical representations are rare, and mainly incorporate them into more general aspects of rock art, such as shamanism (Lewis-Williams 1981; Lee 1987) or social management (Lennsen-Erz 2001).

When analysing bows as musical instruments in rock art it turns out that the variability of uses made of bows displayed in the palaeoart has a certain correlate in a variety of possible social contexts that are depicted. Based on this observation it will be shown that rock art research should retain some flexibility in the interpretation of themes that are depicted, not expecting automatically exclusively ritual context. This

Site, area	Country	Citation
Maack Shelter, Daureb	Namibia	H. Breuil 1955: 11
Sesaub B, Daureb	Namibia	J. Rudner & I. Rudner 1970: Fig. 69a; E. R. Scherz 1986: Fig. 82
Numas 62, Daureb	Namibia	J. Rudner & I. Rudner 1970: Fig. 69b
Hungorob 114, Daureb	Namibia	Pager 1989: 433; T. Lenssen-Erz 2001: Fig. 62
Soutrivier, Kaokofeld	Namibia	J. Rudner & I. Rudner 1970: Fig. 75a
Omaruru district, Erongo	Namibia	E. R. Scherz 1986: Fig. 221
Wide Valley, Maclear	Republic of South Africa	D. N. Lee & H. C. Woodhouse 1970: Fig. 170; R. Ego 2015: Fig. 24–25
Natal (Drakensberg-Mountains)	Republic of South Africa	J. D. Lewis-Williams 1990: 30, 1981: 1
Northeastern Cape	Republic of South Africa	T. Dowson 1998: Fig. 5.7b; Lewis-Williams and Dowson 1989, endpapers; R. Ego 2015: Fig. 23
Northeastern Cape	Republic of South Africa	D. N. Lee 1987: Fig. 1

Table 1. Published depictions of musical bows in southern Africa.

paper aims at providing supportive arguments for this viewpoint.

Analysis of published musical bow depictions

Several authors recorded and published presumed musical bow scenes during the past decades (Table 1). The first depiction mentioned as a musical bow is a scene recorded by Stow and published by Bleek (Stow and Bleek 1930: Pl. 72). This may still be the best known instance, although it has been questioned musicologically (Kirby 1968: 193–195). We follow Kirby's assessment and skip this depiction in the present study. Other instances are still unverified. H. Breuil discussed in his publication on the frieze of the 'White Lady' at the Daureb Mountain (Breuil 1955) two musical bow players and presented a comprehensive interpretation. Also in the neighbouring site Girls School Shelter Breuil discovered a 'file of young musicians, preceded by their "schoolmistress"' without providing evidence for this interpretation (Breuil 1959: 12); he only assumed that they carry bows with gourds as resonators. But since his explanations are based on a diffusionist concept, his ideas about the 'Greek harp players' (Breuil 1955: 11) have to be rejected. Others, like Rudner and Rudner (1970) as well as Lee and Woodhouse (1970), published some further instances which they discuss without a contextualisation and only with reference to the comprehensive ethnographic work by Kirby (1968) in order to prove the depictions to represent musical bows being played. More integrated analyses of musical scenes are presented by Lee (1987) and Lewis-Williams (1981). Lee discusses an apparent musical bow scene from the north-eastern Cape to probably represent a shamanistic context. In contrast, Lewis-Williams (1981) assigns instrumental music like the musical bow in general to 'personal music' without a shamanistic context.

A compilation of the published instances of musical bows (Table 1) allows for an initial analysis. Finding similarities between several bows or bow uses helps

to determine whether a depiction can be verified to represent a musical scene. Finding differences allows for a grouping into various playing techniques and to sort out the most likely depictions. The accuracy and verifiability of such categories is increased with the amount of clearly identifiable instances. While a single depiction can hardly be used to claim a widely known musical bow practice, we argue that several similar depictions of a particular bow type or bow handling can be interpreted as a specific musical practice. Although separating characteristics into categories is a main principle in archaeology, e.g. separating artefacts into tool types, it is somewhat subjective. The analysis of rock art that has been produced millennia ago requires a methodological precaution to diminish the personal and cultural bias that is inevitable due to the temporal and cultural gap between past and present (for instance Breuil's misguided interpretation of the frieze of the 'White Lady' at the Daureb Mountain). Interpretational propositions about ancient rock art are inherently not falsifiable and hence not testable: they are expressions of probabilities. Therefore, if the study object is pre-Historic hunter-gatherer art, it is advisable to consult the ethnography of extant hunter-gatherers of the region. But this can only be done with the caveat that practices of the recent past cannot be extrapolated unfettered into pre-History. Nevertheless, we contend that a number of processes and phenomena in the empirical world 'out there' are understandable irrespective of the cultural imprinting an observer has. Based on the phenomenological concept of 'life-world' established by Alfred Schütz (Schütz and Luckmann 1973) we regard phenomena depicted in rock art as providing information on an implicit and an explicit level that are informed by tacit and by explicit knowledge of its producers (after Polanyi, e.g. 1966). While the implicit information is entirely embedded in the respective culture, or, as tacit knowledge, even within an individual (and therefore largely inaccessible to us, Polanyi 1966, see also Schütz and Luckmann 1975:



Figure 1. Shooting an arrow. Orabes Gorge, Daureb, Namibia (Pager 1989: 20–21).



Figure 2. Frieze of the famous White Lady (far right). Upper musician: playing the musical bow at shoulder level in vertical position with bent arms. Lower musician: playing the musical bow at chest level in a transverse posture with bent arms and reflexive handling of stick. Maack Shelter, Tsisab Gorge, Daureb, Namibia (unpublished, © Heinrich-Barth-Institut, copy of H. Pager, modified).

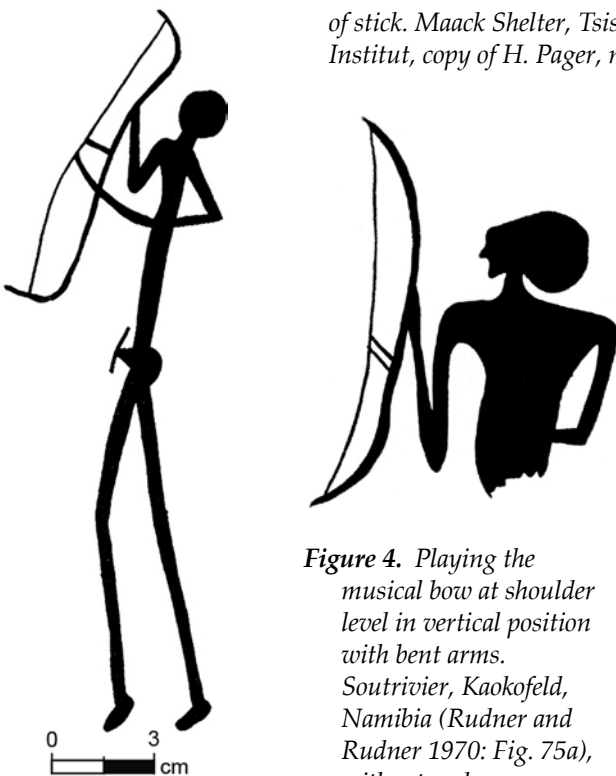


Figure 3. Playing the musical bow at shoulder level in vertical position with bent arms. Sesaub Gorge, Daureb, Namibia (Rudner and Rudner 1970: Fig. 69a; Scherz 1986: Fig. 82).

Figure 4. Playing the musical bow at shoulder level in vertical position with bent arms. Soutrivier, Kaokofeld, Namibia (Rudner and Rudner 1970: Fig. 75a), without scale.

99–102), the explicit information is based in intersubjective experiences in the empirical world. Experiences such as using a tool or observing animal behaviour are general human experiences while the sense that is interpreted into these experiences is subjective and culture-bound (Schütz and Luckmann 1975: 101). In front of this epistemological

background our observations presented in this paper are drawing on the ethnographic record of musical bow playing in southern Africa on the one hand (citations below), while on the other hand we take details visible in the rock paintings as realistic or veristic representations

of real things. In consequence we assume that also smaller technological or morphological details on such items were taken from the real life-world of the painters — at least if such details can be retrieved in the ethnographic record — and are not mere symbolic or aesthetic concoctions. With this interaction of ethnographic and archaeological rock art data we choose an abductive way of reasoning (e.g. Moriarty 1996) thus arriving at what we consider the simplest explanation or an ‘Inference to the Best Explanation’ (Lipton 2000). For those depictions that we interpret as depicting the playing of musical bows there are no ethnographic observations that would suggest an alternative, still simpler or more straightforward interpretation.

Since a comprehensive discussion about musical bows in southern Africa’s rock art does not exist, the first aim of a systematic analysis is to find unambiguous features like morphological/organological characteristics. Some ethnographic observations emphasise that bows used for musical purposes are either built with special material or of a special appearance. Others show that ordinary bows were modified, e.g. by adding a resonator, tying the string to the bow with a tuning noose or by loosening the string to a desired pitch (Kirby 1936; England 1995; Marshall 1976; Olivier 2001). Besides morphological features, musicological investigations (e.g. Kirby 1936; England 1995) show that playing the musical bow also involves particular bow handlings.

Almost all depictions of the published musical bows (Table 1) have in common that the bow is held with the string turned away from the player’s body. Such a bow handling makes it impossible to shoot an arrow or to execute similar hunting activities (Fig. 1) but it resembles some musical bow playing techniques (England 1995: 46; Kirby 1968: Pls 54–56). In such depictions, the bows are ‘turned away’ — an aspect which Scherz in his catalogue of Namibian rock art lists as a special, standardised feature without calling

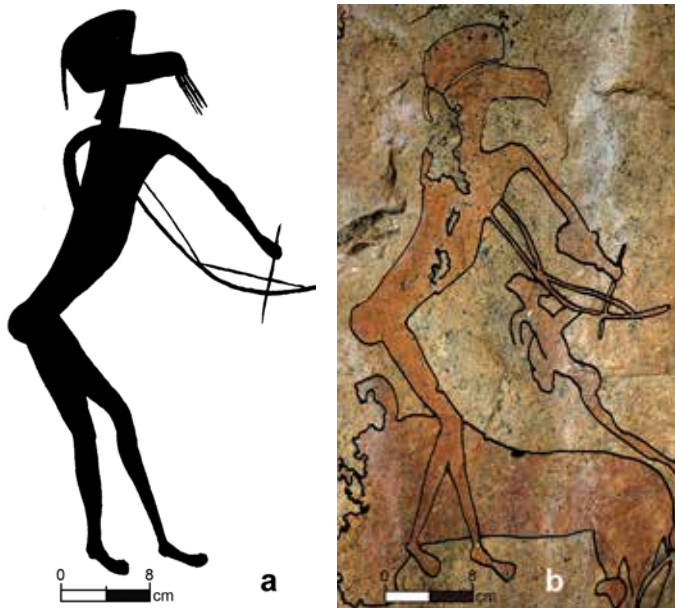


Figure 5. Playing the musical bow at chest level in transverse position with bent arms and reflexive handling of stick. Numas Gorge (N 62), Daureb, Namibia.

Figure 5a. Rudner and Rudner 1970: Fig. 69b.

Figure 5b. H. Pager's original field recording projected onto a photograph (unpublished, ©Heinrich-Barth-Institut).



Figure 6. Playing the musical bow at chest level in transverse position with bent arms and reflexive handling of stick. Hungorob Gorge (H 114), Daureb, Namibia (Pager 1989: 433).

up a musical context (Scherz 1986: 99 and passim). Furthermore, although sometimes partly faded or hard to recognise, a short, slim stick may be depicted, whose tip touches the bow(-string). In the rock art in northern central Namibia two playing techniques are to be distinguished. Both appear side by side in the left-most part of the famous frieze of the 'White Lady' (Maack Shelter, Fig. 2). The upper musician holds the bow in a more or less vertical posture at shoulder level, striking the bow with a slightly upwardly directed stick, similar to the musicians in Figures 3-4. A slightly different handling is exhibited by the musicians in Figures 5-6 and the lower musician in Figure 2 where the bow is held in a transverse posture at chest level. In the latter depictions, the stick is applied in a conspicuously reflexive way. The bow's tip points towards the body of the musician, who is touching the bow(-string) more or less at the bow's centre. The function of both handlings is elucidated by a peculiar detail: on some bows the string is tied to the stave. Nowadays, such 'braced bows' exclusively serve musical purposes to obtain different pitches or intervals and/or tuning the string to a desired pitch (Rycroft 1984: 721).

A depiction from Omandumba-West (central Namibia) referred to as 'musical bow' by Scherz (1986: 258) (Fig. 7) differs from the other northern central Namibian depictions. Here, the bows are not modified to be unambiguously interpreted as musical instruments. However, a useful clue may be that the bows touch the humans' faces at mouth-level. A similar technique is common among the !Kung San (Fig. 8) and was obviously practiced by the /Xam in the 19th century (Hansen 1996: 301), '[u]sing the simplest and most

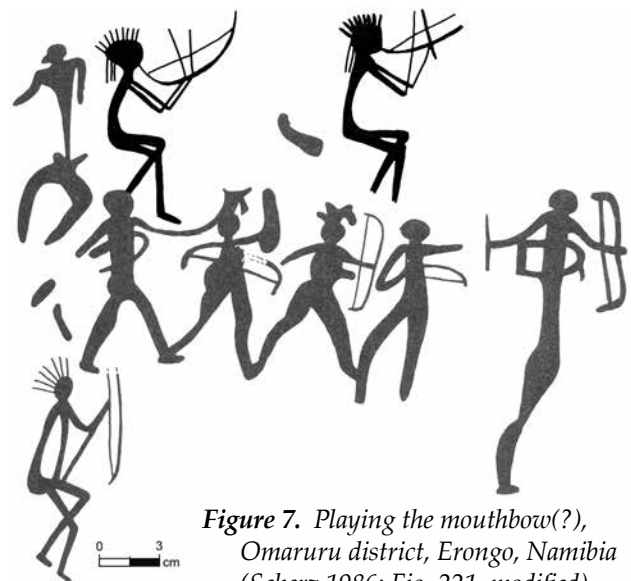


Figure 7. Playing the mouthbow(?), Omaruru district, Erongo, Namibia (Scherz 1986: Fig. 221, modified).

common technique, the man places the head end of the bow in his mouth, which serves as a resonator' (Marshall 1976: 365). Therefore, the depiction in Fig. 7 can with some ethnographic corroboration be interpreted as showing mouthbows being played even if it seems



Figure 8. A ʒū'!asi (Ju/'hoansi or !Kung San) musician playing the n'ohma, a braced mouthbow. Ombili, Namibia (photo by T. Lenssen-Erz 2015).

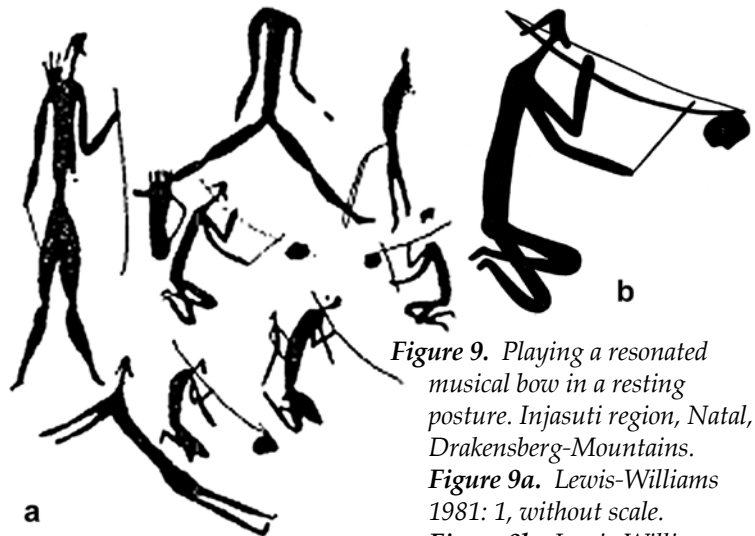


Figure 9. Playing a resonated musical bow in a resting posture. Injasuti region, Natal, Drakensberg-Mountains.
Figure 9a. Lewis-Williams 1981: 1, without scale.
Figure 9b. Lewis-Williams 1990: 30, without scale.



Figure 10a. Playing a resonated musical bow in a resting posture. Wide Valley, Maclear (Republic of South Africa; Ego 2015: Fig. 25).

Figure 10b. A view of the panel in Wide Valley, Maclear, with depictions of Fig. 10a (Ego 2015: Fig. 24), without scale.



Figure 11. *Playing a resonated musical bow in a resting posture. Eastern Cape (Republic of South Africa; Ego 2015: Fig. 23).*



Figure 12. *A Korana musician playing the !gabus resting on a metal container which serves as a resonator (Kirby 1968: Pl. 58A).*

to show the unconfirmed playing technique of using two sticks.

A comparison with the paintings from the Republic of South Africa conveys the impression that these bows are generally longer compared to northern central Namibian rock paintings. A closer look also reveals the

general presence of an attachment. Figures 9–11 show a nodular modification connected to the lower end of the bow. Kirby (1968) discusses a similar bow handling found among the pastoral Korana in South Africa. These musicians tend to play the bow with a grounded resonator (e.g. a tin can) in a resting posture (Fig. 12). Interpreting the nodular attachment as a resonator is therefore in line with ethnographic evidence (Kirby 1968) and a strong argument for these depictions (Figs 9–11) to be musical scenes. Additionally, a musical context is emphasised by the purported stick seemingly striking the bow. However, different to the rock art in Namibia, the supposed stick touches the lower end of the bow stave, instead of the string, in a non-reflexive way. But although playing techniques differ, touching the bow stave with a stick at its lower end can even less be understood in terms of launching arrows. The apparent use of a resonator, the sitting position and the surrounding people, possibly representing an audience or collectively performing musicians, again strongly suggest representations of musical contexts.

One depiction from the north-eastern Cape (Fig. 13) is similar to the latter in bow morphology, the musicians sitting posture and the playing technique (striking the bow with a stick at its lower end). Although there is no resonator present in this depiction, it shows some parallels with the aforementioned instances and is presumably related to them.

Summarising the categorisation, two regionally distinct observations can be made. In northern central Namibia the position in which the bow is held indicates

that different playing techniques seem to have existed side by side (even if not strictly contemporaneous). Interestingly, braced bows and unbraced bows were played in the same way. However, South Africa's rock art yields only one playing technique. Here the instrument is mostly played with a calabash (or similar object such as a tortoise shell, see Lewis-Williams 1996: 308) as a resonator, amplifying the sound for a group of listeners or participants. In spite of regional differences, all depictions have some features in common. Such common features are relevant for a detection of unidentified musical bows. They are listed here in descending order of diagnostic conclusiveness:

- The strongest arguments for a musical bow are organological features like representations of a resonator or a tuning noose.
- Using a 'stick' with the bow string is generally understood as the shooting of an arrow. However, a reflexive use of a relatively short stick or a combination with a 'turned away' bow is a strong argument for a musical context.
- Handling the bow in a 'turned away' manner, the bow stave held towards the body, inhibits a shooting action. It opens up different kinds of action and may be generally related to a musical use.

The Daureb (Brandberg) rock art collection

The complete southern African collection of nine published sites with musical bows presented above comprises twelve individual musical bow players. Since these sites are from different rock art regions, and since they show different bow handlings, they presumably reflect different music cultures. An integrated analysis concerning wider aspects of the musical contexts based on such heterogeneous data would be audacious. This task demands more rock art data to be analysed with regard to the respective chronological and cultural backgrounds.

The high mountains of the Daureb (Brandberg) in northern central Namibia comprise about 1045 known rock art sites of which 879 were documented by H. Pager, constituting the data base for the present analysis (Fig. 14). While some musical bow depictions have already been identified in the rock art of the Daureb (Table 1), further musical bows have gone unnoticed so far.

As mentioned in the analysis of published musical bows, we argue that several instances of a particular bow type or bow use are a strong argument for a commonly known musical practice in terms of music culture. However, investigating musical concepts requires knowledge of the respective cultural and symbolic entities to be considered.

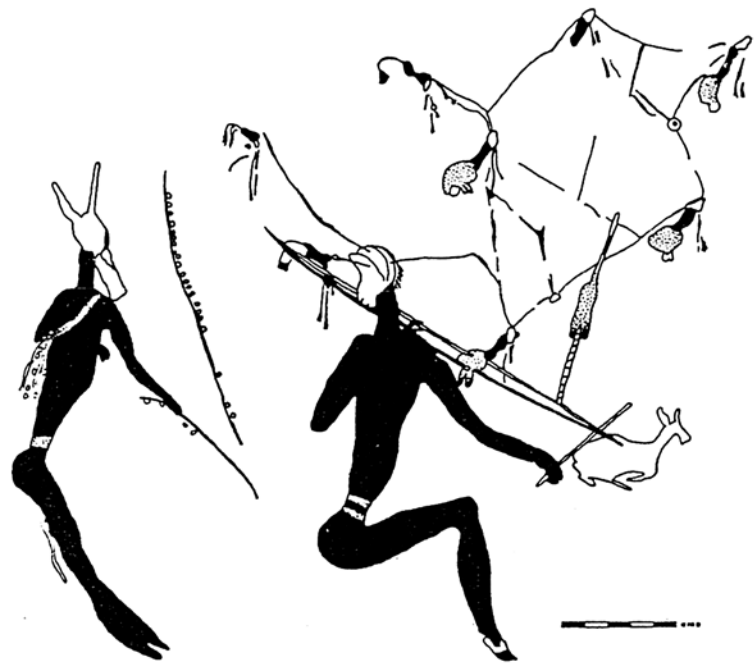


Figure 13. Playing an unresonated musical bow in a resting posture. Northeastern Cape (Republic of South Africa; Lee 1987: Fig. 1).

A series of radiocarbon dates collected at several sites within the Daureb indicate that pre-Historic hunter-gatherers settled the mountainous massif between 5000 calBCE and 1000 calBCE (Breunig 2003: 273). Obtaining an absolute radiocarbon date of the rock art is not an option because a non-destructive sampling of the paint residues is impossible. To circumvent a direct dating of rock art J. Richter correlated radiocarbon dates from excavations at painted sites with radiocarbon dates from excavations at unpainted sites in central Namibia and concluded that the rock art may have been common practice in a rather short time period between 3500 and 2000 years BP since the presence of rock art fully correlates with archaeological finds from this period (Richter 1991: 257). This assumption is supported by archaeological excavations conducted by P. Breunig at several sites within the Daureb, one of which unearthed an in situ piece of painted rock fallen off the wall. Two radiocarbon dates from charcoal in the same archaeological layer yielded ages of 2760 ± 50 (KN-3544) and 2710 ± 60 BP (KN-4117), providing a *terminus ante quem* for the act of painting (Breunig 2003: 83) and supporting the chronology suggested by Richter. Of importance for the understanding of the northern Namibian rock art, and especially the investigation of related music cultures, is the fact that the archaeological results from Namibia pre-date the so-called 'Bantu expansion' (roughly dated to c. 400 CE; Phillipson 1993: 188). The arrival of pastoralists in southern Africa resulted in extensive exchange with the local hunter-gatherer groups, mutually affecting their music cultures (Kubik 1988). The archaeological fact that the core period of painting practice predates the Bantu expansion fits the archaeological material analysed by

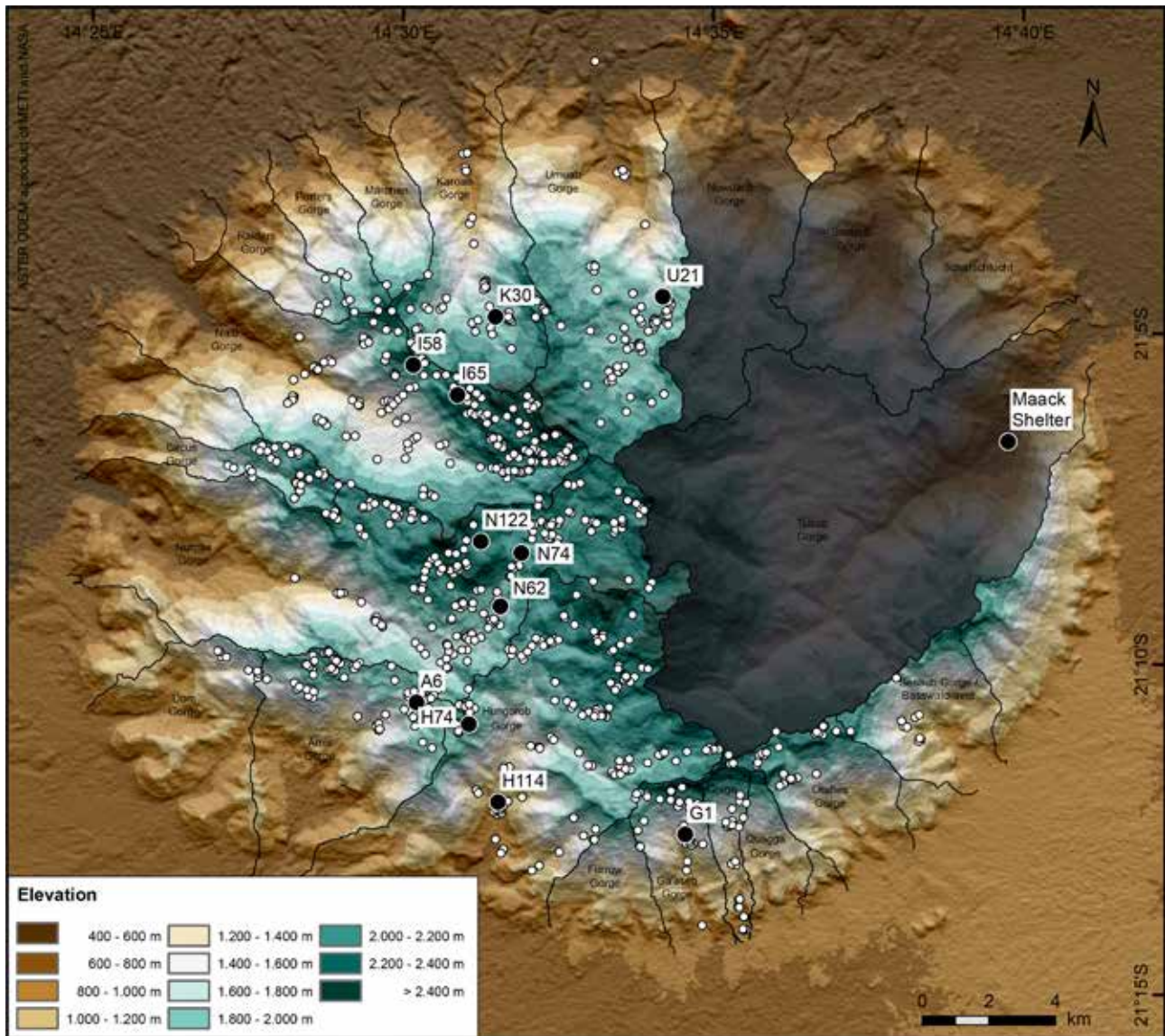


Figure 14. Map of the Daureb rock art and sites with depicted musical bows, black lines marking the watersheds. Rock art sites from the dark area have not been fully documented by Harald Pager and none were published. For the other part of the mountain documentation and publication of rock art sites covers nearly 100%.

Richter. The Late Stone Age technology at the analysed sites reflects highly mobile hunter-gatherer societies that is also mirrored in the content of rock art. While domestic animals are almost completely lacking (and the few that exist blend in very well with the hunter-gatherer context; Lenssen-Erz 2000), two-thirds of the depicted figures consist of mobile humans (partly with what looks like bags, bows or sticks) and one-third of game animals, thus presumably representing a hunter-gatherer society rather than sedentary farmers or pastoralists (Lenssen-Erz 2001: 123; Richter 1991: 201). There is no evidence casting doubt on the assumption that the rock art at the Daureb is homogeneous in terms of the painters' economic strategy. Accordingly playing styles, organological and morphological variants on musical bows were very likely developed autochthonous and not imported from neighbouring cultures as posited e.g. by Hansen (1996: 301).

Musical bow traditions at the Daureb (Brandberg) and the surrounding areas

A first search for particular musical bow features within the rock art database yielded negative results. Except for the disputable identification of gourds by Breuil in Girls School Shelter (Breuil 1959), resonators appeared to be completely absent while braced bows (the bow string being tied to the stave with a tuning noose) were rarely recognised. Therefore, every figure in the rock art collection using a bow has been reviewed for specific handlings reasonably being connected with a musical context (for a complete discussion see Vogels 2009). At first sight, a variety of bow handlings exist, making the anticipated presence of generic musical bow uses hardly traceable. However, on further inspection it turned out that the manner in which the bow is handled is not unsystematic. Certain 'bow positions' – the angle at which the bow is held – occur regularly.

These appear to follow more or less discrete rules beyond the simple dichotomy of 'turned away' and 'not turned away' bows. This observation indicates that 'discrete bow positions' signify the bow's use and may be connected to different fields of application (e.g. hunting, defence, attacking, stalking, carrying, making music etc.).

The following categories are based on a differentiation of such discrete bow positions which are related to a musical context. We argue that similar representations of musical bows likely refer to conventions of particular musical traditions that were intelligible within the painters' restricted community. A secure differentiation of a musical bow handling from other bow uses requires each of these features to be present and well-preserved. Therefore, only unambiguous specimens are presented and discussed here.

Category A: bows held 'turned away' from the body

This category comprises several bow positions which have in common that the bow stave is held close to the body and the string is 'turned away' (cf. Scherz 1986: 99 'abgewendeter Bogen'). This bow position seems to prohibit shooting activities and suggests a potential musical bow use in general.

Subcategory A1: bows held 'turned away' with outstretched arm

The mere presence of a 'turned away' bow appears not necessarily to be connected to musical contexts since this category of bow positions with outstretched arm does not contain any instances of a stick or an arrow striking the bow string. 'Turned away' bows held with outstretched arm seem to represent multiple activities and cannot be reduced to a single meaning. Some specific, though obscure, meaning is indicated by depictions showing additional hunting tools like arrows or a quiver in the same hand as the bow (Fig. 15). The activity represented by a human holding a bow in his outstretched arms could therefore be defined as 'holding out' or 'presenting' the (hunting-)bow.

Subcategory A2: bows held 'turned away' in vertical

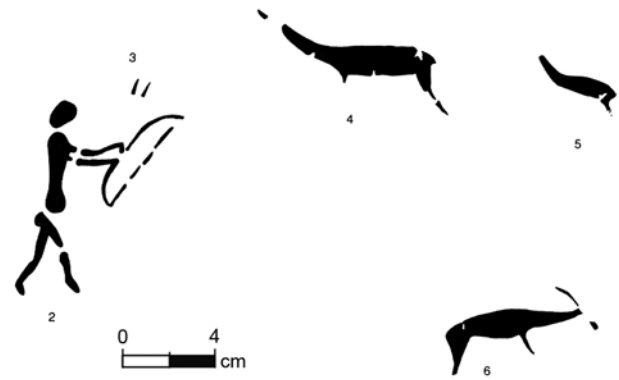


Figure 15. Holding out hunting bow and arrows (only the arrow heads are preserved, marked with [3]). Daureb, Hungorob Gorge (Pager 1993: 187).

position with bent arm

Holding the bow close to the body with a bent arm is typical for musical bows with a fixed resonator (group I after Kirby 1968: 196). Adding a resonator to the bow to amplify and/or alter the sound is also used among the San (Marshall 1976: 367; Kirby 1936: 382; Kubik 1987: 126; Olivier 2001: 14). Similar playing techniques are depicted in northern central Namibia at the Daureb (Fig. 2, upper musician; Fig. 3) and Soutrivier, Kaokofeld (Fig. 4).

Subcategory A3: bows held 'turned away' at chest level in a transverse position with bent arm

Some human figures in the Daureb rock art hold the bow in front of the body at chest level at an oblique angle. Apparently they strike the bows reflexively, the stick pointing towards the body (Fig. 2, lower musician; Fig. 5; Fig. 6). Based on the two latter subcategories A2 and A3, a further yet undiscovered musical bow playing technique was identified, which is described below.

Subcategory A4: bows held 'turned away' across the body with bent arm

In Figure 16, the leftmost human (No. 145) carries a highly curved bow together with an arrow in the one



Figure 16. Playing the musical bow across the body with bent arm applying a stick with reflexive gesture (Figs 146 and 148?). Amis Gorge (A 6), Daureb, Namibia (Pager 1989, A6 folded sheet, modified).



Figure 17. Elongated human playing the musical bow across the body with bent arm applying a stick with reflexive gesture. Naib Gorge (I 65). Daureb, Namibia (Pager 2000: 59, modified).

hand and a stick in the other, presumably representing a hunter. The subsequent humans (Nos 146 and 150) have less curved bows. Their bows are held running across the body with the upper tip pointing over the person's shoulder. Human No. 146 applies a stick to the lower end of the bow stave reflexively, thus apparently executing a musical performance. The action of human No. 150 is somewhat obscure because the scene has been partly destroyed by an overlying wasps' nest. Nevertheless, one can assume a similar bow use as seen on human No. 146. Human No. 148 in the centre of the group applies a stick with the same reflexive gesture as human No. 146. But here, either the bow-string is not preserved or human No. 148 (a female?) is striking a rod rather than a bow. The scene and particularly the differing bow curvature can be explained in terms of different tensions for shooting and for playing music as suggested by an observation made by L. Marshall (1976: 365): 'Hunters while away the time with bow music when they are walking mile after mile, perhaps following game they have shot. [...] For hunting, the string is very taut; for playing, the string is loosened so that its fundamental, open string tone is [...] in the range of D to B flat [...]'

A special attribute is apparently connected with elongated human figures (see e.g. Lewis-Williams and

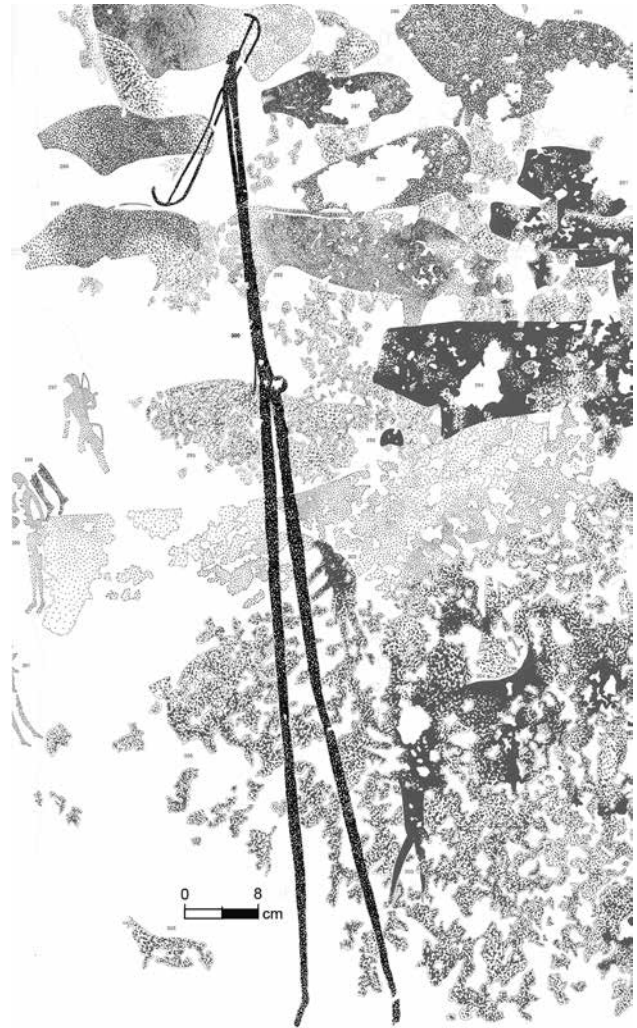


Figure 18. Elongated human holding a bow across the body with bent arm presumably holding a stick in the hand of his relaxed arm. Ga'aseb Gorge (G 1), Daureb, Namibia (Pager 1995: G 1 folded sheet, modified).

Dowson 1989: 77, for a discussion on elongated humans and shamanism). The elongated human in Figure 17 holds a bow across the body, clearly touching it with a stick at the centre with that typical reflexive gesture, unmistakably playing the bow. Another elongated figure holds a morphologically identical bow the same way (Fig. 18). Its apparent 'penis' can alternatively be interpreted as a stick held with his relaxed arm, thus probably representing a musician who is 'temporarily not playing'. Conspicuous in both depictions is the curvature of the bow itself. It is questionable whether this bow style (bow type 4 after Lennsen-Erz 2001) really existed or whether it is an exaggeration of the tool that may have an effect analogous to the elongation of human figures. On the bow this shape might symbolise a special power or function and not denote an existing object. However, this would be the only concocted material object in the rock art while this type of bow is rather common in the palaeoart and not exclusively found alongside elongated figures.

Category B: bows held horizontally at shoulder level

Bows held in a horizontal position are suggestive of musical bows since they visually resemble the (scraped) mouthbow (group III after Kirby 1968: 220). Today several techniques of sound production exist with this type of musical bow, e.g. by scraping the bow stave over a series of parallel notches (Kubik 1987: 129) or by striking the bow string (Kirby 1936: 378). A depiction from Omandumba-West (Fig. 7) resembles such a mouthbow being played. However, it has no parallel in the rock art of the Daureb. It therefore remains unique and its meaning may be equally idiosyncratic.

Category C: bows turned towards the body held in vertical position at shoulder level with bent arm

This category is represented by two unpublished scenes from the Numas Gorge (Daureb, Namibia). In the right part of Figure 19, two humans sit turned away from each other, each holding a bow. Although the bows' strings are turned towards the body in both cases, the humans seem to be musicians since they exhibit several features of category A2 (i.e. bows held 'turned away' in vertical position with bent arm): both humans hold the bow at shoulder level with bent arm close to the body, apparently striking the string with a slim, short, upwardly directed stick. In addition, the outer (rightmost) musician has an elongate object attached to the bow stave, similar to resonators identified by Kirby (1968: plate 64). Besides the presumed gourds in Girls School Shelter, this item may indicate the only further resonator recognised so far in the rock art in northern central Namibia. Apparent eye contact between the two musicians and the people on the left likely denotes an audience participating in the musical performance while all seem to have gathered under some kind of



Figure 19. Two musicians playing the musical bow held at shoulder level in vertical position with bent arm, the bow string turned towards the body. The outline of H. Pager's field recording projected onto a photograph. Numas Gorge (N 74), Daureb, Namibia (unpublished, © Heinrich-Barth-Institut).

roof (likely a shelter).

A similar mode of playing is presented in Figure 20, where two musicians turned away from each other seemingly play their bows. Again, the presumed players hold the bows at shoulder level, apparently striking them with upwardly directed sticks. Compared to Figure 19, the musical context differs in that no audience is present. Besides this, it may be speculated that the rightmost human prepares his bow for musical use, since he has a stick close by. On all three men in Figure 20 (recognisable by their penises with penis attachments), at least one end of their bows is turned in from a rather straight bow stave by more than 90°, thus resembling type 4 of the bow typology, being a manufacture that does not seem conducive to launching arrows.

The way of handling the bow in Figures 19 and 20 deviates from the playing techniques analysed above

Category	Site	Figure No.	Human No.	Gorge	'Musician' discovered by
A2	Maack Shelter	2	-	Tsisab	H. Breuil (1955)
A2	Sesaub B	3	-	Sesaub	J. Rudner & I. Rudner (1970) / E. R. Scherz (1986)
A2	H 74	15	102	Hungorob	O. Vogels (2009)
A3	Maack Shelter	3	-	Tsisab	H. Breuil (1955)
A3	N 62	5	-	Numas	J. Rudner & I. Rudner (1970)
A3	H 114	6	79	Hungorob	T. Lenssen-Erz (2001)
A4	A 6	16	146	Amis	O. Vogels (2009)
A4	A 6	16	150	Amis	O. Vogels (2009)
A4	I 65	17	22	Naib	O. Vogels (2009)
A4	G 1	18	300	Ga'aseb	O. Vogels (2009)
C	N 74	19	-	Numas	H. Pager (unpublished)
C	N 122	20	-	Numas	T. Lenssen-Erz (unpublished)

Table 2. Identifiable depictions of musical bows at the Daureb/Brandberg (Namibia).



Figure 20. Two musicians playing musical bows held at shoulder level in vertical position with bent arm, the bow string turned towards the body. The outline of H. Pager's field recording projected onto a photograph. Numas Gorge (N 122), Daureb, Namibia (unpublished, © Heinrich-Barth-Institut).

in the sense that the bow is not held in the unusual diagnostic manner, but rather similar to the action of shooting an arrow. Subcategory A1 (bow held 'turned away' with outstretched arm) suggests that a 'turned away' bow position alone is a rather weak argument for a musical use, while applying a stick in a particular way appears to be a strong argument. With these caveats in mind, depictions of musical bow performances in the Daureb rock art can now be determined by discrete features even if no bow modifications are present. These features are listed here, again in descending order of diagnostic conclusiveness:

- The presence of a short, thin 'stick' whose tip touches the bow or its string (the stick is directed upwards if the bow is held rather high; directed downwards, reflexively pointing towards the body if the bow is held rather low).
- The position of the arm a bow is held with (a bow used with bent arm is not ideal for shooting of an arrow, while a bow used with outstretched arm likely precludes musical performance).
- The position of the bow itself (the level and degree of slant a bow is held with; compare categories A-C).

Some bow positions, for instance holding the bow 'across the body' or 'across a shoulder', occur frequently in the rock art of the Daureb. But only in some of the depictions there is conclusiveness towards representing a musical context. In this respect, it is questionable whether a particular bow position per se implies a musical bow use, i.e. on a secondary or implicit level. If this were true, several hundred musical bow depictions would exist at the Daureb massif. But since the bows are displayed with rather heterogeneous positions, it must be assumed that the existing diversity of holding, carrying or using the bow corresponds with the possible

variate capabilities of that tool and that shooting and making music are only two of many meanings connected with the bow.

Discussion: contextualisation of musical scenes in southern Africa's rock art

The analysis of bows as musical instruments in rock art shows that the variability of uses of the bows being displayed has a certain correlate in a variety of possible social contexts. However, little is published so far about concepts regarding music and rock art. Lewis-Williams (1981) states that two kinds of music are recognised among southern Africa's hunter-gatherers, vocal music and instrumental music. Vocal music is sung by men and woman and is especially associated with the medicine dance and with the idea of transformation as it transforms a man's state of consciousness (Lewis-Williams 1981: 8). He argues that corresponding vocal and communal music of transformation, e.g. women clapping hands, is frequently

depicted because rock art is largely associated with the work of the medicine man. In contrast to this social and powerful music, instrumental music is more personal and played for pure pleasure of individuals. Either while on the way or in the camp (Lewis-Williams 1981: 8). In a quantitative perspective, the data presented here seem to follow Lewis-Williams' concept, as playing the musical bow is rather rarely depicted. Eared serpents, for example, are not frequent in the Daureb rock art either (0.15% of the depictions, Lennsen-Erz 2001: 73), but there is little doubt that they were important and powerful depictions. However, musical bow players may not seem to be as 'loaded' as the fantastic being of an eared serpent. Moreover and different from the fantastic eared serpents, people in all likelihood had personal experiences with musical bow players in their daily life. Accordingly they would be aware of the various uses and contexts that this instrument could serve for.

In fact, Lewis-Williams' statements appear to be guided by ethnographic and ethnomusicological observations. N. England (1995: 31) observed, e.g. that among the !Kung (or Ju/'hoansi), vocal and instrumental music generally appear to belong to different modes of social behaviour, since 'Vocal Music repertoires are as thoroughly functional as those of the Instrumental Music are purely entertaining'. Vocal music of the !Kung is thus dedicated to communal music and is generally connected with songs used for healing. However, medicine songs are not limited in function but 'also serve for entertainment dancing as well as for sources of the casual melodies' (England 1995: 31). L. Marshall emphasises that playing music (with or without bow) among the !Kung is never a performance in the sense of European musicians but rather, if the music is not ritual, people 'sing and play for

their own delectation, and all participate to some degree in all aspects of the musical life' (Marshall 1976: 363), a phenomenon that goes together with Hansen's findings on San music (Hansen 1996: 308). Corresponding rock art, e.g. depicting women clapping hands without further symbolic reference to shamanism, is thus not only to be connected with the work of the medicine men, but with a more general term: social life. In this respect ethnographic observations show that musical depictions require a more complex contextualisation than the simple dichotomy between communal rituals and individual pleasure.

As has been shown above, the pictures of musical bow players are consistent enough to identify some typical behaviours and contexts. However, when comparing these to the ethnographic record, some discrepancies become clear — even though it has to be conceded that a direct correlation of the ancient past with ethno-historic observations is precipitate. Nevertheless, the ethnographic approach to rock art (e.g. Lewis Williams *passim*) is based on such correlations. A mismatch of musical bows in rock art and ethnography pertains to the following phenomena:

- In the ethnographic record of southern African Khoe-San people there is no evidence for the most frequent modes of playing musical bows in paintings (subcategories A2, A3 and A4);
- Apart from the ambiguous depictions at Girls School Shelter at the Daured there is no evidence for female players in rock art while they are to be found among sub-recent Khoe and other ethnic groups of southern Africa (cf. Kirby 1936; Lee and Woodhouse 1970: 106–108);
- Bow Type 4 (Lenssen-Erz 2001) has no parallel at all in the ethnographic record across southern Africa while it is relatively common in Daureb rock art; arguably such a construction may not really have existed since it can hardly be made out of a single piece of wood (except by bending over steam, the Thonet technique); however, this would mean that bows of type 4 would be the only object in the art lacking a material model; in fact this would also pertain to another clearly represented bow type in the Daureb rock art, the triple curved bow (or fully recurved bow), for which there is no ethnographic or archaeological evidence (Lenssen-Erz 1994: 188–190), but the functionality of such a make of bow is undisputed. Since it is not likely that painters just concocted a specific shape, the triple curved bow, which they had never seen but for which there is a functional purpose, we consider it an inference to the best explanation (Lipton 2000) that bows, somehow, in the shape of type 4 had actually existed.
- The playing mode by amplifying the bow through the mouth, which is the most common way of playing among the extant San (e.g. Marshall 1976: 365), has little if any analogy in rock art; only one depiction in Erongo possibly shows two such play-

ers (cf. Bahn et al. 2015: 61).

Accordingly, interpretation of the depictions requires the assessment of intrinsic features. Taking the pictures to some extent at face value, the spatial dimension of the performative act that is depicted can be taken into consideration. In as much as sizes and proportions in groups of human figures follow realistic models, so also other parameters such as group configurations may correspond to realistic conditions. On this basis, three different general paradigms of playing musical bows can be hypothesised.

Solo player, no audience

This is a recurrent motif in the rock art of the Daureb. The sound is only amplified through the body, if at all, which restricts its range to a more or less personal, private space. The extant San of the Kalahari of today confirm that playing the bow is largely private entertainment, often used for recreation and passing time (cf. Marshall 1976). This is corroborated in rock paintings of solo players by the fact that there is seldom any discernible audience. Conspicuously, the solo players in the Daureb art are standing or even walking, thus practically excluding a group context in a static space as evoked in the following paradigm (communal playing, see below) — but matching the observation of L. Marshall that hunters of the San often while away time with music on long trips. Also Hansen, writing about San music, confirms that 'bows were played by males, mainly for individual music making and personal expression, although audience participation in the form of singing was not prohibited' (Hansen 1996: 301).

There are two extremely elongated humans playing the musical bow in the Daureb, both are solo players using bows of type 4. It is questionable if the human in Ga'aseb 1 (Fig. 18) is a musician since he does not strike the bowstring but seems to hold the beating stick in his arm hanging relaxed down his side. Notwithstanding this caveat, music in these cases is a matter of addressing the individual himself — or some abstract audience that cannot or needs not be depicted.

As with the players in Figures 16–18, figures are sometimes seen on panels where they superimpose older layers of paintings which may constitute a semantic context, but in none of these instances is this context suggestive of a coherence as it is constituted in structurally unambiguous scenes (Lenssen-Erz 1992). Therefore any semantic link through the layers (and through time) would be highly speculative.

Communal playing

Depictions of communal playing are more frequent in South Africa than in Namibia where there is only one single clear scene. The scenes in part have more than one musical bow player and an identifiable audience, who are all seated. Only in one of the scenes is there a suggestion of someone dancing alongside the music (Fig. 10). The musicians largely use resonators to amplify

the sound, which makes sense in light of the audience. They are situated in an apparently communal space which in the Daureb scene (Fig. 19) may be a shelter rather than a hut since the latter could hardly provide as wide a roof as depicted. The focus of the scene seems to be on the fourth human from right, towards whom all others are turned and the two nearest humans attend to him by touching him. Accordingly, the music may possibly address this person in particular.

In the scene from Amis 6 (Fig. 16) there are six humans of which three seem to play musical bows (typical position subcategory A4), but here the players are apparently their own audience. This is more obviously since they are walking in single file in a kind of clear marching order. The humans in the line (Nos 2, 4 and 6) are the presumed musicians while the first, third and fifth figures hold out in front a slightly curved object and a bow or stick in the other hand. Body ornaments or any specific activities are not reserved for a particular sex, since the third to fifth figure are women. The communal space that is created here with the (unamplified) music is related to the route these people are taking, i.e. music is an integral part of mobility – as much as body ornament.

E. R. Scherz (1986: 258) recorded two almost identical figures on the Farm Omandumba-West in the Erongo mountains that possibly represented bow players (Fig. 7). If this denotes playing the bow by amplifying it with the mouth, the musicians would take one end of the bow stave into their mouth and play the string with two sticks (playing the bow this way with one stick is practiced among the San of toady). Further figures next to them may represent the audience but their relationship to the musicians is unclear since there is no scenic coherence (Lenssen-Erz 1992). Only a figure handling a bow at the bottom of the small panel displays scenic coherence but the handling of the bow does not conform to modes of making music.

In the pictures from South Africa in the scene from Maclear (Fig. 10a), the audience seems to react directly to the music with a person sitting and presumably clapping in front of the musician. Another person sits 'listening' to him while still other individuals directly at left assume peculiar bent body postures, perhaps indicating dancing – but possibly having a different scenic focus with another white decorated figure still further left (Fig. 10b). Here the musician displays rich body ornamentation adding an elaborate visual signal to the scenic, activity-based complexity.

The player in the scene from north-eastern Cape (Fig. 13) displays body ornament to a lesser extent and plays the bow unamplified. However, he seems to have an audience in a masked/therianthrope figure that he faces at his back. The masked/therianthrope figure, an associated dotted line and an enigmatic design of lines and blots constitute elements which link this scene to the trance hypothesis of rock art production (e.g. Lewis-Williams and Dowson 1989). There is no obvious relationship between the music and the reaction of the

audience as in the foregoing scene from Maclear and it is doubtful whether the slightly bent posture of the masked/therianthrope figure is intended to denote dancing or even a trance-induced body reaction.

A veritable orchestra is depicted in a scene from Injasuti (Fig. 9) with four players who are kneeling (instead of sitting). Figures around them display what seem random activities without any coordination, so the association with the music remains unclear. One figure displays the 'arms back' posture but in a supine position this is unlikely to be a feature indicating trance.

Relating to the character of groups in rock art, the differences in attire and ornamentation of specific figures in larger groups have been interpreted by Dowson (1994) as different steps of growing political power of shamans. However, there is little corroboration for this in the Daureb paintings, since the members of groups are all much alike, either without any elaboration (Fig. 20) or all equally 'decorated' (Fig. 16).

Unclear relation to space and audience

In this group of pictures the features and context of the Daureb bow players produce a dialectic relationship between the musicians and the possible social and spatial connotations. The most conspicuous feature is the rich body decoration that has a parallel in the group of six figures in Amis 6. The two musicians from the White Lady (Maack) shelter (Fig. 2) are close enough to be considered participants in a single scene, but the complex panel around makes it difficult to decide whether any of the other figures are an associated audience. Moreover, while one musician is standing, the other is walking, so the spatial interpretation of music being integrated into mobility as with the walking group in Amis 6 cannot be applied here to both musicians.

A clear 'lack' of an audience can be stated for a player in Hungorob 114 (Fig. 6), which is completely isolated except for a faint, superimposed antelope and some surrounding remains of faded figures. Nevertheless, this figure displays very rich body ornamentation that has to be considered as a visual signal for others, possibly beyond an everyday context. The playing mode of the bow (category A3) seems to work by pushing the bow stave against the sternum thus producing some resonance with the chest. It is doubtfully loud enough for a larger audience, particularly because the bow is not pushed against the sternum by holding it on the distant end. Instead the proximal end is seemingly pressed with the fist onto the sternum, thus probably producing a muted effect. Obviously, this musician covers only a small range where his music is audible, whereas his visual signalling ranges into a much wider, public space. In the richness of his body ornament, the way of playing (bow against sternum) and the activity of the legs this human clearly parallels the lower musician in the White Lady shelter so that this latter one, too, may stand for the same opposition of range of his acoustic and visual signals.

Conclusion

Much if not most of the rock art considered in the context of this paper is of such an antiquity that it was probably made before the contact with people migrating into the southern subcontinent from the north. Accordingly, modes of playing and bow-use for musical purposes may have been established before the advent of new groups and instruments, and playing techniques may therefore be autochthonous inventions. Nevertheless, the analysis of the published body of musical bow players in southern Africa's rock art can only be in part supported by evidence from the ethnographic record of the extant San hunter-gatherers. At all levels of musical production, there are phenomena in rock art where there is no informing background in ethnographic observations: from the kind of bows used (bow type 4) to ways of playing (sternum as resonator) and to the social context (e.g. ornamental marking for wide-ranging visual conspicuousness as opposed to a narrow acoustic range) – musical bow playing must have had a range of practices (Olivier 2001). At one end, there may have been the individual enjoyment associated with pastimes, and on the other end there may have been the communal event in a ritual context where several musicians played in front of or amidst a larger audience. Within the latter, there may have been a specific person for whom the music was played (cf. Fig. 19).

Not only these audience-oriented players but also those who are alone, but with rich body ornament, are perhaps special people who seem to play a role beyond the everyday. A further type of figure may indicate a similar role, namely extremely elongated figures handling bows as if producing music with them. Like Lewis-Williams (2002: 105) or Dowson (1998: 82) suggest, these people as much as the richly ornamented ones could have been ritual specialists, 'medicine men', who were involved in ritually-loaded actions such as rainmaking, or, in cases of the presence of an audience, in healing.

Another conclusion of this analysis is that the pre-Historic hunter-gatherer cultures of Namibia and South Africa produced regional differences beyond the typical morphological differences, extending into the social sphere. While in South Africa seated players are common, in Namibia this is an exception where walking while playing is rather frequent. In the Namibian paintings, the leisure aspect of playing, which is an asserted practice among extant hunter-gatherers (Marshall 1976: 320, 365; Hansen 1996; Olivier 2001), may have some bearing on depictions of isolated, non-ornamented players. Technological details, especially bows of type 4 with their extremely in-bent ends, need further research.

What still remains to be answered is why these depictions were made at all. This question refers to another meta-discourse on a particular cultural practice with its social implications, because a depiction of, e.g., a decorated musician is a representation with symbolic

elements (body decoration) of a real activity with symbolic aspects (playing music). For example, if we assume a painting shows a rain maker while playing a 'rain song' (Lewis-Williams and Pearce 2004), this can be considered a symbolic action expressed in a symbolic medium. This implies that musical bow players who are depicted in their role in, e.g., rainmaking or healing would find affirmation of their actions by being captured in the persistent pictures, thus conserving or perpetuating the impact of the ritual act. As an analogy, this would suggest that depictions of leisure playing mean a preservation of the leisure moment thus placing such pictures in a clearly non-ritual context of art production. Inasmuch as playing the bow ranges in its impacts from rainmaking and healing to pure individual pastime, we should probably also allow an equally wide spectrum of applications for rock art itself, addressing sometimes ritual and sometimes leisure.

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