

# Classification of Sound, Sound Tools, and Soundscapes

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# Classification of Sound, Sound Tools, and Soundscapes

# **Gjermund Kolltveit**

**ABSTRACT** How did prehistoric people relate to sound? What significance did various kinds of sound have for them? Classification represents a fundamental approach to these questions. The concepts and classifications we use are indicative of our thinking as modern humans. We often classify sound either as intentional or non-intentional, and either as music or non-music. Moreover, as researchers we relate sound to diverse categories such as religion, ritual, hunting, communication, and others. Sounds and sound tools of the past, and the soundscapes they were part of, might be approached from different angles. Music is a problematic concept with an ethnocentric bias. Intentional sound is a better name. A tripartite classification of intentional sound is suggested, distinguishing between sounds made for functional reasons, for ritual reasons, and, finally, for pleasure and pure expression.

# **KEYWORDS**

sound, sound tools, soundscape, bullroarers, classification, music archaeology

# Introduction

In 1991, the Norwegian archaeologist Hein Bjartmann Bjerck found a small object made of reddish slate in a Stone Age settlement at Tuy, near Saltstraumen in Nordland, Norway (Fig. 1). It was polished and shaped like a propeller blade. The dating is about 2800 cal. BC (Bjerck 2010). Bjerck made some reconstructions of the object, and after some experimenting he found that it functioned well as a bullroarer. Through Bjerck's interpretations and experimental analyses, this artefact has become known to the general public as a bullroarer (Bjerck 2010). Sometimes, for instance at the local museum, the Saltstraumen Museum, it is presented as the oldest music instrument from Norway. The sound of the Tuv bullroarer has been recorded on CDs, and a reconstruction was used in the composition "Tuv", a work commissioned for The Nordland Music Festival in 2008 by the composer Frode Fjellheim.

Was this tiny propeller blade made deliberately for producing sound? Was it used for performing mu-

sic of the Stone Age people in Tuv? Or was it merely used for ritual purposes? What status and significance did this tool and its sound have for the users? And how can we approach it today, as modern humans? How should a tool like this be understood?

The interpretation of a stone artefact as a bullroarer is not unique. Steve Marshall has carried out some experiments with unexplained flint artefacts from Britain and demonstrated their function as bullroarers (Marshall 2010). This article, however, will not answer the many questions related to possible bullroarers. Instead, it focuses on sound in prehistoric societies, which is a challenging research issue, since sound is a "lost dimension" of our experience of past societies. I am especially concerned with classification, and here I present and discuss some classifications relevant to sound, sound tools – including bullroarers – and soundscapes in prehistoric societies, as well as in our investigations of this topic.



Figure 1. Possible bullroarer made of slate. Found at Tuv, Saltstraumen, Nordland, Norway. Length: 64 mm. Circa 2800 cal. BC (Bjerck 2010:4, Fig. 3 [drawing by Hein Bjerck]).

Classification is of fundamental importance in sound-related issues. At various levels, both in the research process and in our underlying ideas about sound and soundscapes, we classify or encounter classifications indicative of our thinking as modern humans. The act of classification also operated in the minds of the prehistoric actors.

Man is a categorising animal, and classification is a basic human cognitive activity. Lévi-Strauss stated (1966:15) that any classification is superior to chaos. When an anthropologist enters a new and unknown field situation, he or she often feels lost before the meaning of the basic classes is established. The same can be said about archaeologists exploring a remote past culture. Indeed, it is not easy to understand the thoughts of people from the distant past. The important point here is, however, that we acknowledge that the people of the cultures we study made their worlds meaningful through classification. In studying the prehistoric perception of sound, one challenge is to balance the modern perception against the native, culture-specific perceptions in question. The meaning and significance of sound in Nordic prehistory were certainly different from our modern perceptions, but presumably not necessarily fundamentally different. Recall the 1903 statement of Durkheim and Mauss that "primitive classifications are ... not singular or exceptional, having no analogy with those employed by more civilised peoples; on the contrary, they seem to be connected, with no break in continuity, to the first scientific classifications" (Durkheim & Mauss [1903] 1963:81).

# Soundscape

In the study of sound in a broad sense, we should start by looking at the entire soundscape in which the individual sounds take place. Sounds from bullroarers and other sound tools are always parts of more extensive sonic environments, where they interact with and sometimes overlap with other sounds. A fruitful framework for the interpretation of sound and its significance, today as well as in the past, is the concept of *soundscape*, developed by the Canadian composer Murray R. Schafer (1977).

Soundscape refers to the entire acoustic environment, including natural sounds such as animal vocalisations or wind and rain, as well as sounds made by humans. The concept includes not only environments or physical landscapes, but also perception: how people make sense of what they hear. In other words, a soundscape is a physical sonic environment and a way of perceiving that environment (**Fig. 2**).



Figure 2. Soundscape with three subcategories.

Schafer developed tools for analysing sound and soundscapes. Among the most important concepts is that of a *keynote sound*, which means a sound that lasts more or less continuously or forms a background against which other sounds are heard. An example would be the sound of the sea in coastal villages. Furthermore, he wrote about *hi-fi* (high fidelity) versus *lo-fi* (low fidelity) soundscapes. In hi-fi soundscapes, such as in the rainforest, all sounds can be heard clearly, and it is easy to determine the direction and distance of the sounds. According to Schafer, rural soundscapes are more hi-fi than urban ones, and past soundscapes, especially pre-industrial ones, were more hi-fi than modern ones.

Among those influenced by Schafer is the musician and sound recordist Bernie Krause (2002), who distinguishes between *geophony* and *biophony*. Geophony denotes the totality of sounds associated with inanimate sounds of the earth, such as thunder, wind, water, rain, and so on. Biophony is the totality of sounds associated with living organisms, including vegetation. A third category corresponding to this way of thinking could be called *anthrophony*, referring to the totality of sounds associated with humans (**Fig. 2**). Anthrophony might also be regarded as a subgroup of biophony. The term was, as far as I know, coined by the British archaeologist Steve Mills (2005).

Steven Feld's work on the music and sound anthropology of the Kaluli of Papua New Guinea (Feld 1982) was an important ethnomusicological contribution related to the idea of soundscapes. This study of sound as a cultural system emphasised the auditory culture or "sound worlds" of these rainforest people. Later Feld devised the term *acoustemology*, a union of "acoustics" and "epistemology", by which he wishes to "investigate the primacy of sound as a modality of knowing and being in the world" (Feld 2003:226).

Feld's work contributed to a broadening of the concept of soundscape, but it still retained Schafer's emphasis on environmental sounds and humans interacting with the sonic domain. Later, a range of fields and directions of study have produced a tendency to disconnect the term soundscape from its original meaning. Now it is applied to almost all kinds of sound phenomena (Kelman 2010). For a long time, the visual realm dominated Western thought and influenced our understanding of the world. In other cultures, especially ones in which oral traditions are more prevalent, the auditory has a far more important place. For people in the rainforest, like the Kaluli (Feld 1982), this becomes particularly clear, since sound is important for the perception of distance, depth, and space. Birds are a dominant cultural means for making sense of the Kaluli world. The average Kaluli person can easily imitate more than one hundred species.

Although sound as a sensory experience has not been considered as particularly significant, we have not lost the ability to experience the importance of hearing. A current example illustrates the strength of sound: In the trial that took place in Oslo in the spring of 2012 against the terrorist and mass murderer who killed 77 people in Norway in July 2011, the media was allowed to broadcast his voice only to a limited degree. When we could hear it, it was interesting to experience that the sound of his surprisingly ordinary voice gave a much deeper, closer – and thereby also more frightening – impression of him than pictures alone.

The direction of research is changing; soundscape studies and general interest in aural culture has inspired a range of disciplines and fields. Of special interest here is the direction of research concerned with the history of sound and hearing, which is of a somewhat more recent date than Feld's Kaluli work. Studies in what has been labelled *historical acoustemology* or *aural history* can be seen as a part of the history of the senses, which has its roots in the French Annales school, as well as areas of social history (Smith 1999; Smith 2001).

An interesting case of the historical shift in perception from a primary emphasis on what we hear to what we see is given by Rath (2003). He describes an incident in North America in the 17th century, in which several houses were destroyed by thunder. The same incident was described by a historian in 1850, and this writer speaks of lightning strikes, although his sources used the term thunder. Interestingly, the original expression is in accordance with the old and traditional way of expressing this phenomenon in the Norwegian language, according to which it is thunder that strikes, not lightning.

One way we can access knowledge about the more significant status of sound and hearing in the past is through the study of place names. Linguists consider the names of rivers and other bodies of water to be especially ancient. These names bear witness to the meaning of sound in people's lives. One example is a river in Hedmark, Norway, called *Brumunda*, meaning *The rumbling* [No. *Den brummende*]. The name of the island *Dønna* in Nordland might come from *dønning*, meaning *pounding* or *bumping* (of the sea).

Furthermore, folk ornithology in Scandinavia might have some similarities with the rainforest world of the Kaluli (Feld 1982). In a similar way, birds are message bearers and voices (and creatures) from the other world. To conclude, I think ethnographical parallels would be of assistance here.

Archaeologists are also motivated by soundscape studies and interested in the history of sound and hearing (Melini 2012; Rainio 2012). Of particular interest is the contribution of Steve Mills, who has introduced what he calls an *auditory archaeology*, which, in short, seeks to identify and reconstruct the significance of sound and hearing in the daily life of the past (Mills 2001; 2005). He has shown that this is a feasible endeavour. Mill's material for his doctorate (2001) was a Neolithic landscape in Romania. Through experimental and computer-based analysis based on GIS (Geographical Information Systems), he was able to identify several "auditory character areas".

This and similar projects are interesting and promising, whether they are called *auditory* or *acoustic* archaeology. Acoustic archaeology is the study of the acoustic properties of caves, chambers, churches, and other man-made or natural structures (Lawson *et al.* 1998; Devereux 2001; Scarre & Lawson 2006). These fields have in common that they are to some extent based on measurement and description, measuring sound and acoustic phenomena in landscapes and built structures. There is also an organisation called the Acoustics and Music of British Prehistory Research Network led by Rupert Till at the University of Huddersfield, UK.

#### **Approaches and fields**

There are some disciplines or subdisciplines of research concerned with sound and the question of how prehistoric people related to sound. Researchers from the fields of archaeology, musicology, and acoustics meet in this broad subject area, which should be researched using interdisciplinary methods. We could also add linguistics, anthropology, the history of religion, zoology, and other sciences to the list of related disciplines. The methodology and approach will – of course – vary according to the periods, topics, and problem statements in question. The following sources are common to all approaches to the human experience of sound in the remote past:

- ethnographical sources, by carefully drawing parallels from sound-related behaviours among contemporary or recent societies
- historical sources
- iconography
- archaeological artefacts
- built or natural structures with potential for acoustic significance in the past

Even though experiences and behaviours related to sound should be studied in an inter- or multidisciplinary manner, there are some main directions to be identified. Auditory and acoustic archaeology, both of which focus on the acoustics of landscapes or large built structures, have already been mentioned.

*Music archaeology* is another direction and an established field of study through institutionalised networks such as ISGMA (International Study Group on Music Archaeology) and the ICTM Study Group on Music Archaeology. Organologically oriented music archaeology, originally relating to artefacts, usually applies a traditional classification of musical instruments and sound tools, one that is based on morphological and acoustical criteria. Such work with the material is relevant and important, but "artefact-centred" approaches should always be accompanied by wider "culture-centred" and interdisciplinary directions.

Some researchers prefer to use the term *archaeomusicology*, perhaps to emphasise the musicological focus; others prefer *archaeo-organology*, to stress the organological direction and, perhaps, to avoid the concept of music. The terms "music", "musical instruments", "intentional sound" and "sound tools" are far from neutral. The language, concepts, and classifications that we use reflect different approaches, aims, and directions.

What are the limits of and the common ground between these new directions of archaeology, auditory and acoustic archaeologies, and more traditional studies of music and intentional sound making? There are many ways of understanding the boundaries between them. However, *sound* is often a common ground, a shared issue or problem area (**Fig. 3**).

# **Dichotomous classification**

The various directions and fields concerned with sound in the remote past often assess sound according to a set of dichotomies, conscious or not. Dichotomous classification is a fundamental way of thinking as a symbolic organisation of reality (Durkheim & Mauss [1903] 1963; Turner 1967:59).

Although my point of departure is systematic analysis from a modern viewpoint, some issues are more relevant to native or emic categories than others. The following dichotomies related to sound – manmade/non-man-made, cultural/natural, intentional/ non-intentional, non-linguistic/linguistic, and musical/non-musical (**Fig. 4**) – are well-known and used in discussions of ancient sound production and music.



Figure 4. Dichotomous classification of sound in prehistoric contexts.



Figure 3. Directions of research occupied with sound and soundscapes in prehistoric societies. The number of directions here could be extended.

## Man-made versus non-man-made sound

The total soundscape consists of a mixture of manmade and non-man-made sounds. It is still meaningful to distinguish between these two categories, and in most cases it is fairly easy to determine whether a sound is man-made or not. However, the question could and should still be problematised. It is not always obvious. For instance, in some West African cultures, notably among the Dan people in the Ivory Coast and Liberia, various musical instruments are considered to have been made by non-humans, either animals or spiritual beings. According to myths, the human owners acquired their instruments in a variety of ways (Kartomi 1990:242–253).

An interesting counterpart is found in the traditional folk music of Scandinavia, where fiddlers were believed to have acquired their instrument and learned their playing skills from the Neck or Fossegrimen, or similar spiritual beings associated with water. Stories of music learned from fairies and other mythical creatures are known from other places as well, for instance the British Isles (Westwood 2009).

The examples demonstrate that the classification of music, musical instruments, and sound tools might be a very different thing from the emic insider's perspective than from the etic researcher's point of view. We should not take for granted that bullroarers made and used by hunter-gatherers in northern Fennoscandia were considered to be man-made and played by humans. From ethnography we know that bullroarers have been used in a lot of cultures in magical and ritual settings, such as initiation rites (Zerries 1942; Dundes 1976; Sachs [1940] 2006:40–43). From Sunnmøre, Western Norway, there are stories that these sound tools were used as a means to prevent and stop dangerous gusts of wind from entering the fjords (Sevåg 1973:22). The sound of a bullroarer resembles these winds.

#### Cultural versus natural sound

This dichotomy is somewhat parallel to the distinction between man-made and non-man-made sound. However, where man-made strongly implies cultural, non-man-made does not necessarily correspond to natural, since the concept of nature is a modern phenomenon. Accordingly, the dichotomy between nature and culture is often blurred and not always relevant. Pre-modern people made no such dualistic distinction between nature and society, as advocated by – amongst others – Bruno Latour in his book *We have never been modern* (Latour 1993).

Nevertheless, we might still keep this distinction as a research tool similar to the distinction between geophony and biophony versus anthrophony. Sounds from what we call the natural world were important to pre-industrial people, and they obviously had much more knowledge of the sounds from birds, animals, wind, and water than modern people do. Natural sounds have found their way into traditional music and singing, often as processes of sound mimesis (Levin 2006). To take an example from the traditional Sámi vocal expression joik: A categorisation of different motifs in the joiks by the Swedish researcher Karl Tirén in the 1940s showed a wide range of topics connected to nature, including birds, animals, landscape, water, and cosmos (Graff 1993:400-401). Only about 40 percent of his recordings were joiks for people. In other words, nature dominated the contents of the joik repertoire, showing - unsurprisingly - that the Sámi were closely connected to nature.

However, one should always be aware that the perception that hunter-gatherers, as well as prehistoric people, had of concepts like culture and nature were not like ours, and that we should avoid thinking of ancient societies in romantic terms, such as "nature-loving", "ecological" or "harmonious". Implicit in this is a criticism of the *acoustic ecology* movement, a direction derived from Schafer's soundscape studies.

# Intentional versus non-intentional sound

Contrary to the former, this dichotomy is not a modern construction. Intentionality belongs to the native or prehistoric actors themselves. This distinction is most fundamental in the research of ancient music and sound.

Intentionality is regarded as the most important hallmark of music, and some people even define music as "intentional sound". Music or not, intention and purpose is what music archaeologists and acoustic archaeologists seek. It is one thing to identify the acoustic properties of archaeological spaces, such as caves or megaliths. It is quite another thing to substantiate some intention behind the building or use of the structures. Sometimes evidence can be found, for instance in the case of small painted red dots in French Palaeolithic caves, which are deliberately placed at points where the best acoustics are found (Reznikoff 2006).

As for artefacts, bone pipes with finger holes strongly indicate some intention to produce sound, or even "music". More often, the information provided by the archaeological record is much vaguer, leaving us to speculate on the potential intention to make sound. Sometimes artefacts might have been used as sound tools even if they are not deliberately made for producing sound. One example is the obviously rich sounds produced by Bronze Age axes (Berends 2010).

In the late 1970s, the Swedish music archaeologist Cajsa S. Lund developed a "probability grouping", a classification system for sound tools, comprising of five graded groups according to their probability of having been used as sound tools, primarily or secondarily (Lund 1980:6–7; 1981:247; 2012:63–64).

If sound was an intention behind an artefact, it did not necessarily need to be the only intention.



**Figure 5.** Possible bullroarers made of slate, from Northern Fennoscandia: A) Lundfors, Västerbotten, Sweden, c. 3500 BC. (Broadbent 1979:121, Fig. 52f [drawing by Alicja Grenberger]); (B) Normannsvika, Melkøya, Finnmark, Norway, Ts11401.150, 4500–4240 BC. (Hesjedal *et al.* 2009:29, Fig. 1.14 [photograph by Adnan Icagic, Tromsø Museum, Universitetsmuseet]).

The sound quality could be an additional or secondary function. Bullroarers might be an example. The Norwegian archaeologist Morten Ramstad (pers. comm.) suggested that these objects were parts of exchange systems and have circulated over large areas of northern and middle Fennoscandia in the Late Stone Age as a kind of novelty items. There are more finds of possible slate bullroarers from this region than the example from Tuy, introduced in the beginning of this article. Examples include objects from Melkøya outside Hammerfest, Norway, and Lundfors, Västerbotten, Sweden (Fig. 5). It seems likely that these artefacts belong to a relatively early phase of the Late Stone Age, in the time frame 4500 to 3500 BC. The fact that they are made of colourful slate and have a rather elaborate finish lends credence to this theory. In any case, if sound was the primary and only purpose of these objects, they could have been made much more simply (my own experience is that the best and most powerful bullroarer sound is acquired from a simple, roughly rectangular piece of wood).

This example shows that we should not look at sound as an isolated part of a culture. Rather, we should seek wholes, and look for the contexts to which sound (and music) belonged. And sometimes sound, in itself, had a limited significance. This demonstrates



that we, as specialists, should be careful with overemphasising the importance of sound and intentional sound production.

Finally, it is sometimes difficult to determine which sounds are intentional and which are not. Should we regard sounds produced as a by-product of other activities, such as the making of rock carvings, as intentional sounds? Which man-made sounds are non-intentional? Some sounds produced by the human body, such as burping and sneezing, could be considered non-intentional, at least to some extent.

# Non-linguistic versus linguistic sound

Linguistic sound is an intentional sound of the human voice, pertaining to spoken language. Non-linguistic sound is, in principle, any other sound, but the term is usually used in connection with communication that is not connected to spoken language. This dichotomy has relevance in issues related to the nature and origins of language and music (Wallin *et al.* 2000; Mithen 2005). Music in its earliest stages is often regarded as a non-linguistic activity. Still, we can find both linguistic and non-linguistic voices in music.

In addition to its relevance for the distinction between language and music, this dichotomy directs our attention to the variety of vocalisations outside language.

## Musical versus non-musical sound

In much the same way as non-linguistic sounds, nonmusical sounds are countless: shouting, sounds from cutting wood, fishing, cats purring, running, working, sleeping, and so on. Some modern people, perhaps even the majority, would say that the sounds produced by most of the known prehistoric sound tools were non-musical. But what is the meaning of "musical"? Is it only music when we hear "real", proper melodies and rhythms? To determine which sounds are musical and which are not is extremely difficult, because there is no viable definition of music. Choosing a particular definition will lead only to an ethnocentric approach to the material (Kolltveit 2010). Like culture versus nature, I would say that the opposition between music and non-music is purely a modern construction. Music is a narrow European concept, for centuries reserved for the music of the Christian church. Scholars in the 17th century operated with a division between musica and amusica. The former denoted proper music of the church, while the latter meant the non-music of the common people and peasants (Ling 1983:2).

However, this does not mean that people (performing "non-music") have avoided the organisation and categorisation of singing and other sound activities. For example, the Venda of Southern Africa have an elaborate classification system where they distinguish between song (u imba) and speech (u amba) on basis of rhythm (Blacking 1967; 1973). Nevertheless, they do not classify sounds made by machinery in the same group as singing – even if the sounds might be rhythmic – because such sounds are not produced by humans.

The ethnomusicologist Timo Leisiö provides further interesting examples from his studies of Finnish instrumental folk music (Leisiö 1986). The folk or "emic" classification of pastoral aerophones organises them according to their function, but they are never considered to be "musical instruments". Leisiö states that the pattern we call music today did not exist in Finnish or Sámi folk culture before the 20th century (Leisiö 1986:186). This corresponds to worldwide ethnographical data, indicating that music is not a universal concept. People sing, play, dance, and produce sound, but most of the languages of the world lack equivalent to the modern concept of "music".

However, since music is an important phenomenon today – deeply embedded in our culture, among laymen as well as scholars – it is difficult to abandon the concept entirely. In particular situations, however, we may choose another terminology, preferring "intentional sound" to "music", "sound tool" to "musical instrument", and "archaeo-organology" to "archaeomusicology".

Auditory and acoustic archaeologists emphasise, because of the nature of their material, "sound" rather than "music", whereas music archaeologists working with clay drums or bone pipes with finger holes will more readily speak of "music". In the case of Stone Age bullroarers, I would hesitate to call them musical instruments, because it would give the wrong impression to the general public.

Despite strategic, rhetoric, and individual choices in terminology, I believe we all inevitably interact with the dichotomy between music and nonmusic when working with sound tools and intentional sound production in the remote past.

#### Intentional sound: a tripartite classification

If we return to the example of slate bullroarers, provided that these objects were intended as sound tools as their primary or secondary purpose, the sound produced from them should definitely be regarded as intentional. This is a wide group with a variety of



**Figure 6.** Suggested categories of intentional sound. The double arrows illustrate that the boundaries between the classes are blurred in reality.

purposes. How should we deal with the comprehensive category of intentional sound? I will not discuss all possible purposes and uses of bullroarers or other artefacts or sounds. There are several reasons for making sound, and there are several ways of arranging all the reasons. Here, I suggest a rough tripartite classification (**Fig. 6**), where intentional sounds could be made either for functional reasons, ritual and religious reasons, or, finally, pleasure and pure expression.

#### Functional reasons (communication, signalling, etc.)

Sounds serve a large number of practical functions as means of communication and signalling. Examples include battle cries, signals for collecting or warning people, and sounds used for calling or imitating animals during hunting. In the archaeological record, a lot of artefacts might be attributed to practical uses, such as Norwegian otter pipes (Sevåg 1973) or Dutch plover calls (Tamboer 2004), both with possible roots in the Stone Age and continuous traditions up until very recently.

A fascinating example of functional sound is the use of the voice in caves (and other places) as a means to orient oneself in darkness. By listening to and locating echoes, people could find out where to go, as if they were seeing by using their ears (Reznikoff 2006).

And bullroarers again: An account from Sunnmøre, Norway (Sevåg 1973:22), says that people traditionally used bullroarers as a signal for gathering the local team of fishermen.

## **Ritual and religious reasons**

Recall another source from the same region reporting that bullroarers were used ritually to stop gusts of wind (Bjerck 2010). This is in accordance with a lot of other ritual uses of this device in non-European cultures. Interestingly, the same sound tool, and the same sound, might have both practical and ritual functions. This is not particularly surprising, though. Animal bells, for instance, often have functional and ritual purposes at the same time (Kolltveit 2008). Functionally they help to keep the flock together, as well as assist the owners in locating the animals. Ritually, they protect the animals against evil spirits, and are used, for example, in transition rituals.

Such double purposes reveal one of the difficulties with this classification. There is often some ritual aspect to functional sounds and conversely also some functionality to ritual sounds. The functional and ritual domains are closely connected, not only in relation to sounds. Eating is an example of an activity that is basically functional, but at the same time surrounded by a lot of ritual. Still, despite the blurred boundaries between them, I believe that we need a coarse distinction between functional and ritual sounds.

In archaeology, prehistoric sound tools – whether we speak of bullroarers or bronze lurs – are often interpreted as ritual or religious objects. The domain of the ritual has become a comprehensive group where remote, ancient sound-producing activities can easily be placed. It has probably been too easy to use this category, perhaps because ancient sound is too different from our own modern sound activities (art, music).

From another point of view, the ritual is a broad concept that could be connected to the basis of social life (Bell 2009:169). Music, performance, and ritual might be considered to be synonymous concepts. From this perspective, we not should look at music and sound as isolated phenomena, but as inseparable parts of societies in which core cultural values are performed and revealed. Following this track of reasoning, we could distinguish between sacred and secular sound, both included in a wider category of ritual sound.

## Pleasure and pure expression

The making of sound simply for pleasure is among the obvious features of music. But do we always see this purpose in prehistoric or ancient sound activities? To return to the subject of bullroarers: Do we overlook a component of entertainment? Note that bullroarers have been used as children's toys up to recent times. Pleasure might be an important third category in addition to functional and ritual purposes, sometimes accompanying them, at other times standing alone; the making of sound as pure pleasure and enjoyment, collectively or individually – as a universal, central, and intrinsic part of human life.

"Pure expression" means expression without any benefit, other than expressing ourselves, when we sing alone in the shower, or whistle while we work. Neuroscientists might connect such activities to the production of dopamine in the brain. Music therapists and other researchers might point to the universal need for sound and music for health purposes. The Norwegian medical doctor and music therapist Audun Myskja describes individual "self-belonging" sounds, which take the form of unconscious humming, whistling, or something else and are not meant for communication or have any deliberate meaning (Myskja 1999:188-203). They are just part of our natural expression in daily life. I remember my grandfather making strange, weak, and private "mouth-music" when he carved wood. These personal, almost instinctive sounds are threatened today, in the context of wellproduced sound surrounding us from television, computers and other media.

If these personal sounds are unconscious, they do not, strictly speaking, belong to this classification, which is a subcategory of intentional sound. However, as always, the boundary between conscious and unconscious is very difficult to draw.

To reflect reality, this classification should be more complex, and it should include things such as dance, sound therapy, working songs, and other sounds or sound-related activities. Yet the aim of these three main categories is to suggest and discuss a framework for the analysis of humanly organised, intentional sound.

# **Closing thoughts**

There is no conclusion to this, but my purpose has been to contribute to the awareness regarding the clarity of the methodology and reasoning in the many fields and directions of study related to sound in prehistoric contexts. There are many ways of conceptualising soundrelated issues. As with all kinds of classification, there are several possible approaches. My suggestions are in no ways meant as final versions.

Sound has been the subject matter discussed throughout this text. This article does not claim that sound is the focus of the research I refer to, but that sound is a part of this research, a common ground.

The understanding of the term soundscape as both a physical sonic environment and at the same time also a way of perceiving that environment is symptomatic for other contributions to sound studies. The same could be said about sound itself: Most researchers are interested in sound itself, and at the same time also in the way that sound is perceived and understood. There is no conflict here, although sometimes the interests of disciplines or individuals diverge.

My intention has been, simply enough, to show that past soundscapes and the sounds inhabiting them might be approached from different angles. The same applies to sound tools, like the possible bullroarer from Tuv. Future data and new ideas will lead to better and more thorough methods for approaching its buzzing, mystical, and ancient sound.

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