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SOUNDS OF THE SPIRIT WORLD

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The ethnographically-recorded belief that rock faces are boundaries between an outer reality/world and a spirit world within the rock was discussed by Lewis-Williams and Dowson (1990) in “Through the Veil...”, relative to its influence on rock art. The physics of sound reflection explains the perception of echoes as voices emanating from rock/air boundaries, as if there are beings calling out from behind the rock surface. An interrelationship between these concepts is suggested, as supported by Bushman folklore (Bleek and Lloyd 1911): "O beast of prey! Thou art the one who hearest the place behind, it is resonant with sound.”

La creencia registrada de la etnología que las caras de la roca son límites entre un mundo externo de la realidad y un mundo espiritual dentro de la roca fue discutido por Lewis-Williams y Dowson (1990) “Through the Veil (Adentro con el Velo)”, concerniente a su influencia en arte rupestre. La física de la reflexión sonido explica la opinión de generaciones de eco como voces que emanan del límite entre la roca y el aire, como si haya seres que dicen en voz alta de detrás la superficie de la roca. Una correlación entre estos conceptos se sugiere, según lo utilizado por el leyenda de Bushman (Bleek y Lloyd, 1911): “Bestia de la presa! Usted es el quién oye el lugar detrás, él es resonante con el sonido.”

This article explores a possible connection between sound and the San supernatural belief that a rock surface acts as a veil that separates the outer world from a spirit world within the rock. This veil concept is highly relevant to rock art studies since there is evidence from South Africa that the rock surface was decorated because of the belief in the spirit world behind (Lewis-Williams and Dowson 1990).

A close analogy to this concept can be found in “Through the Looking Glass” by Lewis Carroll (1871). In this tale, Alice sees objects reflected in the mirror’s surface, and concludes there is another world on the other side of the glass, deep within the mirror. This belief leads her to slip through the surface of the mirror into the magical land on the other side, where she discovers strange beings living in an altered reality.

We are so easily able to imagine Alice’s world through the looking glass due to our own experience with mirrors. We use the expression of looking “in” the mirror. The optical illusion of depth is due to light reflection. This characteristic property of mirrors to create the illusion of depth is a well-known architectural principle often exploited by interior decorators to

provide a feeling of increased spaciousness. Light waves emitted from objects travel in a straight line until they are bent when they encounter a boundary between two media of different densities, such as air and the metallized glass surface of a mirror. Under the proper conditions the reflected light forms what is called in modern terms a virtual image.

Observers perceive this apparent reversed duplicate of the object as existing behind the plane of the mirror, since that is the direction from which the light rays appear to come (see Figure 1).

In a similar fashion, modern acoustical physics describes how sound waves can be reflected by the boundary between air and a denser material such as rock. Under the proper conditions, reflected sound is perceived as what is called in modern terms an echo: a duplicated, delayed sound that appears to come from the direction of the rock (again, see Figure 1, which applies equally well to sound wave reflection as to light wave reflection). The auditory illusion produced is that of sound emerging from within the rock – behind the veil of the rock surface. As an example of how real the experience can seem, one researcher said he first noticed rock art acoustics when he “heard a car ‘drive’ out of the Buckhorn panel” (William Biesele, personal communication 1997).

The phenomenon that echoes can be experienced as voices calling out from the rock, together with the illusion of depth due to sound reflection, could have been an inspiration for the belief in a spirit world within the rock ¹.

Based on what is known globally of cultures that explain natural phenomena in terms of animism, this belief in a spirit world behind the veil of the rock surface would be a quite understandable response to sound reflection. There are many legends from around the world that explain echoes as originating from supernatural spirits (Bonney 1992 [Greek]; Jobes 1961 [South Pacific]; Gill and Sullivan 1992 [Paiute]; "Tepeyollotl" Encyclopedia Mythica 2001 [Aztec]). Since echoes appear to originate from behind certain special rock surfaces, the spirits conceived as making the sounds were thus probably thought to dwell within those rocks. The rock surface would consequently have been thought of as a veil between the spirits and the listener.

A quotation from South African Bushman (San or /Xam) folklore dictated in 1878 by /Han=kasso lends credence to this hypothesis: "O beast of prey! Thou art the one who hearest the place behind, it is resonant with sound." (Bleek and Lloyd 1911). In cultural context, the 'beast of prey' has been

interpreted as a term of respect for a shaman, and ‘the place behind’ as the spirit world (Ouzman 2001). The belief in the spirit world within the rock has been described as very important and relevant to rock art images that decorate the rock surface veil (Lewis-Williams and Dowson 1990).

Evidence shown by Lewis-Williams and Dowson that San rock art relates to their belief in a spirit world beyond the rock surface includes many examples of painted images emerging from cracks or holes within the rocks. Painted San rock shelters have been found to produce echoes, e.g., Rose Cottage Cave (Ouzman 1997), and to exhibit other unusual acoustics (Sven Ouzman, personal communication 2000).

This chain of evidence leads to an indirect connection of sound and rock art that supplements direct observations of an association of sound reflection and rock art locations. Many examples have been documented of rock art sites from around the world that have unusual acoustical properties such as echoes, supporting the theory of a connection between rock art and sound reflection (Waller 1993a, 1993b, 2000, 2001). The thoughts expressed in this article serve as an example of how the acoustical theory of rock art motivation can embrace, enrich and amplify, rather than necessarily conflicting or competing with, other theories of rock art motivation.

It is the author's speculation that the rock art subject matter represents the images of the spirits that the artists envisioned to be causing the mysterious echoed sounds from behind the veil. For example, anthropomorphic figures may have been inspired by echoes of voices, and zoomorphic figures by percussive echoes perceived as hoof beats. Might therianthropes represent the spirits imagined upon hearing both hoof beat-like percussion echoes and voices emanating from the same place? In a fashion similar to the conventions of modern cartoonists, abstract symbols such as circles and zigzag lines and starbursts may be the result of attempts to represent the sounds themselves.

A practical implication of the theoretical advances and experimental research results in rock art acoustics is that rock art conservation efforts should be expanded to preserve not just the images themselves, but also the acoustical properties of the sites.

[Additional evidence added: In North America, Ojibway and Matagaming legends have been recorded that are remarkably similar to the case above, with parallels including: belief in a spirit world within the rock, spirit beings

inside the rock producing many sounds such as heartbeat drumming and songs that echo, the rock wall appearing like a magic transparent window when viewed from within as if the paintings hung in the air, and sounds of voices heard around the paintings. (Conway 1993).]

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NOTES

1. This theoretical conjecture is speculative and purely academic; with all due respect for indigenous cultures and people of religious faith, the author acknowledges that spiritual beliefs are founded upon real experiences and ancestral truth.

FIGURE 1. Diagram of light or sound wave reflection resulting in a virtual image apparently behind the reflecting plane. Due to bending, the source waves of this visual or acoustic image are perceived to be coming through the reflecting plane, giving the illusion of permeability and depth. R, reflecting surface (concave in this example); W, waves of light or sound; S, source; V, virtual image (magnified / amplified in this example); A, apparent waves of light or sound.

