

## **Echoes of Elsewhere?**

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How can the echo be granted agency beyond its dominant conceptualisation in patriarchal Eurocentric histories, and instead be realised as a feminist and decolonial material-semiotic sonic figuration? Can closer listening to echoes, in the context of sonic knowledge production, open up the existing narrow hegemonic epistemological paradigms of the present?

An echo is typically understood as a recognisable repetition or imitation of an event, utterance, idea or thing. In common parlance we might say an event or opinion 'echoed' another. For acoustical engineers, echoes are generally deemed a nuisance, an unwanted aberration of built environments, to be avoided wherever possible for their disturbance of sonic clarity with terms such as 'echo control' and 'echo suppression'. Echoes and reverberations pervade our everyday sonic experiences. In architectural acoustics, they provide us with our sense of space as we move through our surroundings: sound reflections provide us with information about the size, location and surface materials of our surroundings. Acoustics can determine atmospheres and these relations are culturally specific, such as the 'awe and reverence' one might feel in a reverberant cathedral, affecting the mood and behaviour of people in those spaces (Blessner and Salter 2006, 3). Sometimes, when landscape or architecture enables sound to ricochet across a space in an unusual manner, echoes become curiosities which cause us to stop in our tracks, and shout, clap, or sing.

Echoes in a broader cultural sense often appear as a feminised, enfeebled reproduction of an original entity. Most famously, in Ovid's *Metamorphoses*, Echo is a nymph whose excessive chattering and noisy deception of the goddess Juno has led to her punishment. She is bound to only repeat the words of others. After falling in love with Narcissus, Echo cunningly converses with him by repeating his own words back to him. Narcissus rejects Echo's declaration of love and she subsequently withers away to become a disembodied voice in the mountains. This quintessentially Western myth, demonstrating many traditional binaries such as masculine/feminine, visual/aural, controlled/excessive, agential/agentless etc., offers a useful characterisation of the Echo in the Western imaginary. She lacks agency and originality, she is a mere unfaithful and deceptive repetition, who does not succeed on her own terms. Her imitation of Narcissus's words is sly but desperate; her sexual desire brings about her demise (as does Narcissus's self-love).

I want to emancipate Echo from the limitations of this dominant understanding of her as a tragic victim of failed heterosexual desire. Re-inventing Echo means searching for new meanings created by echoes, in which acoustic repetition is more than a deceptive strategy, and more than a mere acoustic curiosity. What happens when we clap or shout and listen for its echo? Is this repetition only to be understood within an epistemological framework of physical causality?

In addition to addressing what an echo is, or has been, and how it has been represented, what does echo *do*? Following Gayatri Chakravorty Spivak's deconstructive reading of Ovid's story, I posit Echo as a subaltern figure, able despite prevailing conditions set by patriarchy, colonialism, and capitalism, to gain agency within repetition to subvert and transform (Spivak 1993).

Echoes understood as material-semiotic agents, to read through Donna Haraway, connects

acoustic materiality with sonic signification. Echoes as morphing entities between physical materiality and semantic-semiotic networks can be explored as a way to disrupt not only dominant ocularcentric cultural readings, but also as an agency for transforming conceptions of knowledge as such.

The echo has been a significant and guiding motif in my thinking and approach to the field of archaeoacoustics or acoustic archaeology. I am not an archaeoacoustics researcher, however I spent several years researching the field in order to understand how knowledge is produced through sound and listening. My journey through archaeoacoustics started by tracing echoes along lines of science and myth, including fieldwork in Isturitz and Arcy-sur-Cure in France to Chavín de Huántar in Peru. If the white European, masculinist knowledge of Western philosophy and science, which has borne both archaeology and acoustics, has thus far ‘produced’ echo, what can echoes do when conceived in critical opposition to this? What ‘elsewheres’ can echoes open up for *knowledge* itself?

In early July 2018, I joined archaeoacoustics researcher Dr Miriam Kolar’s research expedition to Chavín de Huántar. The three-thousand-year-old ceremonial temple complex, located over 3000m high up in the Callejón de Conchucos valley in the Áncash region of the central Peruvian Andes, is one of Peru’s most famous archaeological sites designated as the National Monument of the Peruvian Ministry of Culture and a UNESCO World Heritage Centre. Kolar, who had generously invited me to observe her work, has undertaken extensive and highly regarded archaeoacoustic research at Chavín de Huántar as well as at various other places such as the Inca site Huánaco Pampa, also situated in the Central Andes (Kolar, Covey, & Cruzado Coronel, 2018).

The opening of the archaeological season was marked by the American lead archaeologist of the research programme, Professor John Rick of Stanford University and Rosa Mendoza Rick, his wife and Peruvian archaeologist. That morning, the gathering centred around the *Pachamama* ceremony and giving thanks to Mother Earth, led by the Indigenous community. After we had all introduced ourselves, two senior male members of the group led a ritual which summoned the four cardinal points and the traditional principles of Andean cosmology – Water, Earth, Sun and Moon – making reference to the colossal mountains which flank the site. Each member of the circle was offered coca leaves, a plant used in traditional Andean cultures as a light stimulant. Some participants moistened a few of the leaves in their mouths, before they walked to a designated stone in the centre of the circle and placed one or more leaves on each of the four cardinal points which had been marked out by the two ceremony leaders. Offerings of alcohol and cigarettes were also handed around, and the two men took swigs from the bottle and forcefully sprayed the liquid from their mouths high into the air, attending to the four directions in turn.

Rick’s overall body of work on Chavín focuses on its rituals and the development of authority at the site. As a temple complex, it is supposed to have been the scene of important religious ritual activity, evidenced in the form of processions depicted in elaborate engravings (Rick, 2008, p. 20). Rick’s summary of geoarchaeological studies highlights Chavín’s location in the mountainous valley at the conjunction of two rivers, with astronomical alignment of the summer solstice, which he deems ‘unusual features of potential ritual and strategic importance’ (Rick, 2008, p. 8). Rick’s work points to evidence for ‘shamanistic’ practices (2008, p. 33) as part of ritual activity, with indications of processional movements from iconography and the pathways and architecture of the complex (2008, pp. 20–23), linked to the depictions of psycho-active drug use in art and paraphernalia at Chavín (Rick, 2008, p. 33). He suggests that highly planned rituals took place, which manipulated human minds through means including landscape, architecture, images, sound, light, and the use of psychoactive drugs. These he interprets to be part of the

evolution of power and authority and convincing populations to accept the dominance of a 'priestly' leadership based in Chavín (Rick, 2005).

When Rick's team excavated twenty *Strombus* shell 'trumpets' in the *Galería de las Caracola*, Chavín's status as a music archaeological or sonic archaeological site of significance was cemented. The discovery of these intact *pututu* horns, most of them engraved (some of which extremely elaborately), 'highly use-polished' and showing extensive handling and use-wear patterns (such as worn-down mouthpieces) and found deposited in a room – thus suggesting it to be a specific storage location for this purpose – all established beyond doubt that the horns played an important ceremonial role (Rick, 2008, pp. 24–27). Fragments of other shells were also found there, indicating that a minimum of nine more shells were present at the time of publication in 2008 (Lumbreras, 2007; Lumbreras & Amat, 1966; Rick, 2008, p. 25). This was significant in the history of excavations at Chavín, being only the second time that substantial and intact objects had been recovered on site (Rick, 2008, p. 24).

Rick and his team were well aware of the possible powerful use of the *pututus* as sound producing devices in the ritual context:

When played together, the shells not only produce an immense volume of noise, but their tones interact to produce a cyclical, attention-commanding beat. If they were played in performances with 20 or more shells within the sound-reflecting walls of galleries or the Circular Plaza, the sound may have had major, even physical impact on the listeners and may represent an important technique for creating an ambiance for rituals related to religion, power, and authority. (Rick, 2008, p. 26)

With this knowledge of the site in the background, Miriam and a group of students devised a few different acoustical tests using the *pututus*. Alongside these, in the *Doble Mensula* gallery, we informally experimented with the space. The architecture consisted of narrow rectilinear corridors linking small chambers with long ducts around waist-height that cross-linked the spaces. As a group, we had discussed the performativity of such rituals and the creation of a spectacle through manipulating sensory experience, as theorised by Rick – perhaps playing on dynamics of presence and absence, disappearance and re-appearance, with the movement of human bodies through the galleries from the open spaces of the Plaza Mayor and Plaza Menor. We arranged three *pututu* players to play and simultaneously walk in a procession through the corridor of the inter-connected rooms, which forms a pathway of some dozen metres from the furthestmost point to the gallery staircase and entrance.

The result of the mobile sonic improvisation was an extremely powerful bodily experience. The volume of the three *pututus* sounded simultaneously reached in excess of 110dB at times; in recordings, you can hear the microphones clipping as a consequence of extreme volumes. Being visually isolated from other members of the group in the darkness created a fairly claustrophobic atmosphere. Acoustically, however, the gallery's chambers were in contrast deceptively expansive, transmitting sound fairly well along the long, narrow horizontal ducts that connect certain rooms to one another, and in some cases stretch several meters and lead through small window-like openings to the outside. The two players of the two larger *pututu* played long tones as they walked through the gallery, whilst the player of the smaller *pututu* played shorter, rhythmic bursts of sound. The long tones, similar in pitch, of the two larger *pututus* created an acoustic interference pattern known as a 'beating-tones effect' (detailed in (Kolar, 2014a)), while the shorter tones were physically aimed against different elements of the architecture. This had a disorientating effect, as the perceived direction of it was constantly shifting in space. The drone-effect of the improvised procession of the three *pututus* created a thick, numbing intensity on my body and ears.

During one of the formal experiments, Miriam and the students had designed a test around transmission of sound around the outdoor plazas of the ceremonial site, undertaking a series of tests on the main plaza using four *pututu* horns played at different locations. Given the symmetries at the site, we decided to place a *pututu* player in each of the north, south, east and west corners or staircases of the main terrace or *Playa Major*. The measurements we took included humidity, wind speed, temperature, GPS location, as well as multiple decibel meter readings per position.

After twenty ‘takes’ of the experiments, we’d heard each of the sounds many times ricocheting around the plaza and the surrounding mountains. To our amusement, donkeys in the nearby fields had been braying ‘in answer’ to the *pututus* being blown. The sound of the donkeys was fairly similar at times in pitch, tone and timbre to the horns. Along with all the other background noises, it was a challenge at times to discern them from one another. Kolar remarked, ‘was that a donkey or an echo?’, a slightly bemused but genuine question. Some of the echoes were extraordinarily long: a powerful sustained burst of the *pututu* horn could produce an echo whose ‘tail’ seemed to glide off gracefully from the temple complex outwards into the valley, weaving off into the mountains.

Within archaeoacoustics, I propose echoes to be a way of opening up the epistemological strictures of the hegemonic ‘here’, of the dominant patriarchal, colonial and capitalist contemporary. I ask how echoes might indicate a political-philosophical ‘elsewhere’, of the kind Haraway recurrently mentions as a quasi-utopic but seriously considered alternative imagining of the present, as well as the past and future. Proposed as a decolonial, feminist and anti-capitalist figuration, the echo can be understood to mediate to an alternate space. Thinking of the subaltern echo that locates the possibility to exercise agency within repetition to subvert and transform, an echo can be conceived of as a figure that helps us to think beyond the many binaries known to persist in Western thought. In particular, the self-other binary becomes important in these considerations of what echo can offer.

If an echo is commonly regarded as a reflection of a sound, as a separate sound event, what constitutes the establishment of this difference in sound? If one hears the reflected sound and can identify it as a version of the same sound, re-occurring with a temporal delay (usually this has to be more than a tenth of a second), it is ‘different’ ontologically only due its temporal delay: it is ostensibly ‘the same’ sound, but delayed. However, there are instances in which the echo of a sound is, phenomenologically, a completely different sound.

For example the ‘chirping echo’ heard at the Mayan-built Chichén Itza Pyramids in Yucatan, Mexico, which resembles the sound of the Quetzal bird, see: (Lubman 1998, 2002). This phenomenon has been acoustically measured and explained by acoustician David Lubman, a colleague of Kolar’s. It is possible to hear these ‘chirping echos’ on Chavín’s main plaza reflecting off its staircases of substantial height, as I tested successfully during my visit. In this sonic experience, the original sound, for instance, the sound of a clap, bounces back with a noticeably different frequency spectrum, changing the frequency and timbre of the expected ‘reflected’ original sound. In instances such as these, where the reflected sound deviates substantially from the known ‘original’ sound, the difference is ontological. Rather than ‘the same’ sound delayed, the echo could plausibly be attributed to an ‘other’ being. Even if a causal relation can be determined phenomenologically – the clap is needed in order for this ‘other being’ to emerge – a palpable ontological difference is discernible. Whether the echoed sound is considered ‘same’ or ‘other’ is one potentially significant way in which echoes in archaeoacoustics are constructed that reveal the narrowness of Eurocentric sonic knowledge production. Herein, we may begin to hear a decolonial echo.

Returning to Kolar’s amused but genuine question of whether the sound was a donkey or an

echo, the status of the echo's ontological being can be brought completely into question – was it a reflection of a known originating sonic event? Or was it the response of another, nonhuman, animal being, who was responding to this human produced original sonic event? Or was it a coincidental sonic event, with no causal relation to the sounds we, on-site humans, were producing? Or was it something else? A sonic-human animal-relational event beyond our current comprehension? An echo, shrouded as it is in opacity and secrecy, sits in this ontological in-betweenness around how difference is conceptualised: of what constitutes 'same' and what constitutes 'other'. Maintaining this space of unknowing, is perhaps part of the condition of understanding how echo can be mobilised as a decolonial feminist figuration. An echo might not presume a sovereign, contained, enclosed individual unit of the human subject, rather it can be a figuration which opens up questions beyond well-known ideas of subjectivity. Self and other are brought into question by the echo.

An echo, construed of affectively, such as the chirping echo or the donkey echo, is a perpetual question mark of differential relations, and serves to blur the boundaries set by the hegemonic order of patriarchy and coloniality. As a figuration of difference, of potential onto-epistemological upheaval through its appearance as a material-semiotic actor in contemporary archaeoacoustics which relates to pasts – as 'elsewhere' to our present 'here' – an echo enables this constant push, as a reminder of what kind of elsewhere one might want to deploy it for. And what might it mean, if echo could *be* on her own terms?

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