

the matter ecologic, six passages on sound

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The film essay 'the matter ecologic, six passages on sound' endeavours to re-probe and contemplate the known through the language of movement and sound ecology. The personal reflections ruminate on a re-softening of the borders between human and beyond human, they propose the notion of embodied technology. The combination of textile artworks with performance, public engagement and poetry formulates fresh encounters with the technology of weaving and the materials stone and silk.

The essay is divided into six passages:

1. A Coming to Know
2. Setting the Stage: Echoes of Voices
3. Another World that is in this one
4. Suspended between Human and Thing
5. Being in Something with Others
6. The Soothing Sounds of Transubstantiation

Keywords: warps; embodied technology; congealed fluencies; the lens of movement

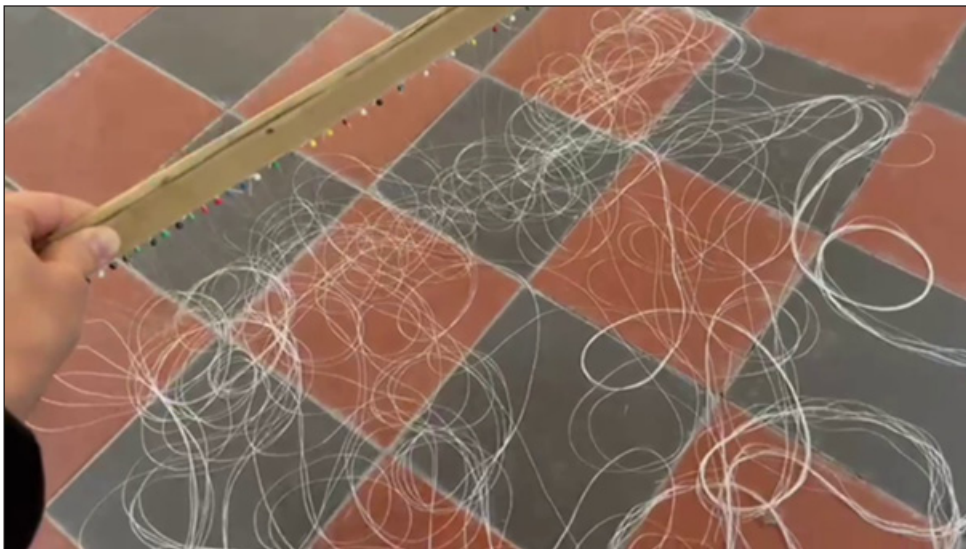


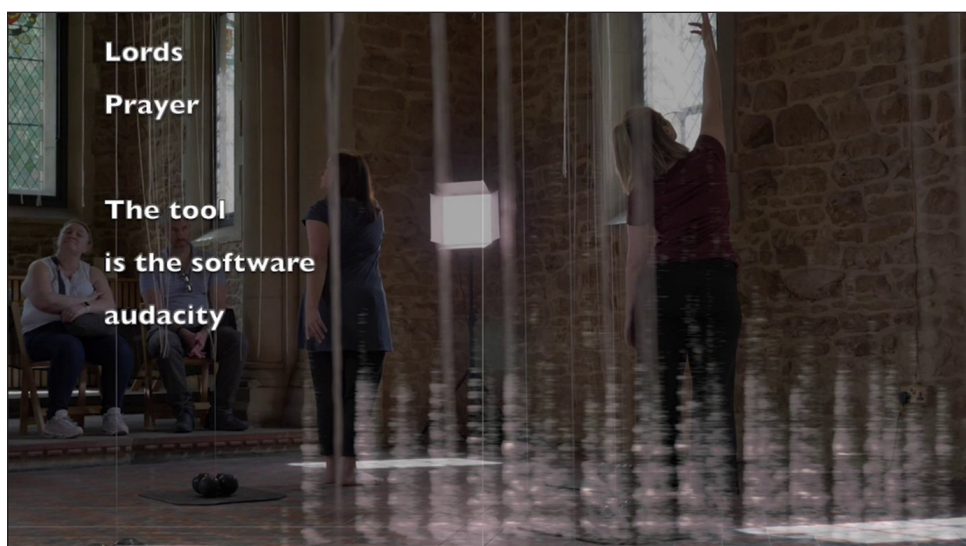
VIDEO ARTICLE

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STILLS FROM THE VIDEO ARTICLE





VIDEO ARTICLE TRANSCRIPT

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[0'14"]

The matter ecologic

[0'21"]

Abstract

The film essay 'the matter ecologic, six passages on sound' endeavours to re-probe and contemplate the known through the language of movement and sound ecology.

The personal reflections ruminate on a re-softening of the borders between human and beyond human, they propose the notion of embodied technology.

The combination of textile artworks with performance, public engagement and poetry formulates fresh encounters with the technology of weaving and the materials stone and silk.

[0'50"]

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[1'18"]

Passage One

A coming to know

[Petra Johnson]

In 2015, I began working with one of the two basic components in weaving, the longitudinal threads that make the warp. Ancient Greek textile, argues architectural historian Kagis McEwen, was essentially something like an epiphaneia: an appearing.

It was this notion that inspired me to discard the weft. Together with anthropologist and choreographer Marceau Chenault, singer and choreographer Estel Vilar as well as friends, we explored weaving air into the warp with movement and breath and ultimately make visible a shared external space

[1'43"]

Air as Agent

[Petra Johnson]

It was and remains an endeavour to re-probe and contemplate the known through the lens of movement.

[2'03"]

Air as Progenitor

[Petra Johnson]

Some time later, I moved in with a community (1) that acts and lives in the spirit of shared ancestry with multiple natures and guardianship.

[2'24"]

The story goes 'When trees could walk, when stone cracks could talk, when the earth rumbled, when the everything was still one, the shadows of heaven and earth slowly emerged'.

[Petra Johnson]

Living in an oral culture added another layer to these explorations of the medium of air.

Memory as hardware, Umberto Eco qualifies, can be organic, made of flesh and blood; it can be mineral reaching across from millennia ago to the future and finally, it can be vegetable memory, the memory of vellum, paper, bark, of matter grown and cultivated to receive the written word.

[2'52"]

Yulong Naxi Autonomous County, China

[Petra Johnson]

Embedded in a place-based (2) community which prioritises speech, I became aware of the presence of sounds I could neither hear nor articulate. Here, the written is delegated to a select few(3), who can negotiate between humans and more-than-humans and who breathe out their pictographs in chants.

[3'30"]

Insects Awakening

[Petra Johnson]

I walked around my new home in widening circles, five routes walked each fortnight, I moved like a finger along the rim of a bowl.

'Do rhythm and cadence act the way light does in casting shadows?' (4)

[3'50"]

Pure Brightness

[Petra Johnson]

I learned to hear the seasons. The local lunar/solar calendar primed my ears to fortnightly changes:

Insects Awakening

Pure Brightness

Grain in Beard

The Time of White Dew

[4'00"]

Grain in Beard

[Petra Johnson]

The life of the land created a bond that felt more attuned than language.

[4'15"]

During the time of white dew,
the sound of the harvesting of corn
crackles below all else

[Petra Johnson]

Composer Ricardo Gallo, a close collaborator of artist Cecilia Vicuna, introduced me to her work and in doing so returned me to working with threads again. Cecilia creates installations drawing from the ancient tradition of Qipu. Threads holding a memory space, preserving and communicating.

It resonated with local traditions of embroidery and the sounds, human and more than human, that surrounded me. Sounds that I could not turn into words.

I could hang long threads, I could scramble them, I could tighten them with apples picked from a dead branch. I could compose them into an ensemble that reverberated with me and all around.

[5'25"]

Passage Two

Setting the Stage:

Echoes of Voices

[Petra Johnson]

My return to a world where writing immortalises human speech through transcription caused me to wonder. How can I share and thereby make conscious something incarnate that I had experienced somewhere else?

[5'35"]

THING

thing	thing	thing	thing
the script	the word	something written	something spoken

[Petra Johnson]

In Spanish *Materia* and *Madre*, that is matter and mother (5), begin with the exhalation of human breath shaping an identical syllable.

Interests and curiosities shared with anthropologist Vipavinee Artpradid led to the formation of The Shape of Sound Collective with movement artists Lily Hayward Smith and Louisa Petts and brought us – via detours – to a small Chapel.

The Anglican Mortuary Chapel was built in the 1850s and is set in a cemetery in Coventry, England. A small place that could hold large questions.

[6'35"]

'Originally, ... a gathering of people, and a place where they would meet to resolve their affairs' was described as a thing.

Tim Ingold (*Lines*, 2007; 5)

[Petra Johnson]

German bombs had destroyed Coventry City in living memory. The graves of those killed were nearby.

I installed a scaled up evocation of inner hair cells. Inner hair cells are sensory cells inside the cochlea. Inner hair cells predate life on solid ground.

In bringing together various strands to act as pillars in my reflections: stones built to amplify sound (6) in a chapel, now silenced; free hanging warps made of silk threads; long threads extruded by larvae moving, and; the notion of embodied technology, I attempt to tease out an ontological web where everything is alive, to paraphrase political theorist Jane Bennett. Can an ensemble of congealed fluencies prompt us to feel ourselves as '*not only human?*' (Bennett; 2010; 116).

Coventry Historic Trust hosted our collective for a two-day event at the chapel. We explored the installation through performative engagement on day one and through public engagement on day two.

We asked:

How does movement know our human past and the present/future moulded by it?

What does a space of make-believe

this temporary cohabitation of

a mortuary chapel

and

an evocation of an embodied technology, the inner hair cells

and

an organic life cycle that has been shortened by and for humanity

reveal?

What other affinities between us and them – them being things, like stone and silk, each holding different spans of memory – become apparent if both us and them are construed as vibrant matter?’

[8’45’’]

Passage Three

Another World that is in this one

[Petra Johnson]

Stone is layered to build walls.

Walls orbit our body as we trace the spiraling movement of sound.

To the present day in the Christian Occident, churches are widely expected to exhibit a particularly good and long reverberating sound. Voices and music reflected by stone allow for a multitude of people to hear the same sound at once.

[9’47’’]

‘Both exposed brickwork and people in space reduce higher and medium frequencies,’
Dorothea Baumann

[Petra Johnson]

The walls of the chapel had recently been repointed. The chapel had been empty for some years.

I took an image of the walls and the memory of touch home with me and pondered these observations by music theorist Dorothea Baumann (Baumann/Niederstaetter: 2016).

[10'05"]

'After the source of the sound falls silent, the sound persists for as long as it takes for all sound waves that have not been absorbed to reach the listener.'

Dorothea Baumann

[Petra Johnson]

If the walls are made of Hartshill sandstone, as one source (7) suggests, they contain the oldest known forms of life. This sandstone is made of tectonically compacted grains of sand deposited on the sea floor 560 million years ago (8). 'The first organisms to populate this 'geophony' (9) still had essentially unlimited bandwidth to choose from.' (Fisher; 2015)

I caress the visual memory of the walls with the hairs of a brush and some coloured water, to get closer, closer... to the material that has been purposed to hold up this space of acoustics, of chanted grief...

How might the silence of Grief communicate?

What fleeting gesture might these stones welcome?

If the walls are made of common local sandstone, they would be made of grains of sand compacted by desert winds from the East (10). They would have been brought up North from France by seasonally fast-flowing rivers 250 million years ago. New frequencies populated the soundscape by then. A biophony: sounds originating from ...biological sources, which were 'able to hear and process the particular sounds that were relevant to their well-being' (11). A time when living organisms devised a sonic compass.

[12'25"]

'Movement and touch is how we know the world around us, how we learnt which rocks were useful to us, how we navigated the architecture of our surroundings and how we built our world. We came from the water to the land by means of movement and our bones developed because of the hard ground beneath us. We continue to know our new world, which has become more static, by feeling and interacting with what is available to us now. We use our bodies and hands differently because we travel on wheels and we touch screens rather than rocks...'

Lily Hayward Smith

[Petra Johnson]

In his book 'Strange Tools' cognitive scientist Alva Noe (2015) argues, tools that shape how we are seen can also shape how we see the world. Can the same be said about being heard and hearing?

[13'15"]

Passage Four

Suspended between Human and Thing

[Petra Johnson]

According to the Roman historian Vitruvius, the technology of weaving was first developed to build shelter. Walls were woven 'with upright forked props and twigs put between them' (quoted in Mc Ewan, K.; 1993; 113). Chinese legend (12) infers that the discovery of silk (13) led to the invention of the loom.

The story goes:

A puppa fell into a teacup, a thread reached out, a woman took notice.

Silk is matter unwound.

With the discovery of silk, rituals emerged alongside the domestication of silk worms. Palaces were built for them (14), women sheltered the cocoons in their bosoms; stories of higher beings that had noted poverty and transformed into silkworms to cloth and nourish. By prioritising need to the more poetic notion of the gift waiting to be noticed, these ways of seeing reverse evolutionary time. Such stories of compassion assume humanity was there before the silkworm and the mulberry tree.

[14'42"]

I began thinking about endings

And centres,

the starting point,

the origin,

and the nucleus

of a spiral.

The winding away

from the centre

and the idea
of infinity

Louisa Petts

[Petra Johnson]

Placing warps of silk threads in a chapel made me regard the skills of beings who
know how to transduce;
who know how to translate light into oxygen and food
and
into wonder.

A silkworm aligns two threads,
one thread secretes from the left, the other from the right side of its mouth,
the threads solidify and join.

During three to eight days, the caterpillar turns its head 300.000 times in a figure of
eight movement (15) whilst extruding one continuous thread of up to 3/4 mile long.

The thread remembers the turns,
remembers the movements that brought it into existence.

Silk is both sacrifice and gift.

Between the you/thou that marvels and the me that frets about survival.

[16'00"]

*'Within matter itself
there is a manifestly
inherent demand
for a higher realization
of its own
imaginative potential'*

Andreas Weber (2017; 40)

[16'15"]

Passage Five

Being in Something with Others

[Petra Johnson]

Silk had come into the lives of the inhabitants of Coventry in the mid 1700's (West, no date). By the 1850's more than half of the local population worked in the silk ribbon trade, more than half of the population touched silk daily. And with that, other sensuous qualities, tactile sensations and cultural significances sought expression.

Woven compositions orchestrated a choreography of light and thread. The patterns that did justice to silk's unique quality, its iridescence, were complex.

Together silk and skill financed the building of the chapel.

Threads are receptors and amplifiers: light, movement and sound all transmigrate through threads.

Tentacles when on their own, wings when in company.

Concerns about the preservation of the building ruled out the use of walls or ceilings for support and converged with my desire for a floating presence.

Something that belongs to the site, like the sensations of grieving.

On entering the chapel, we are entering an evocation of floating hair cells in the form of a scaled-up arrangement. Warps of silk offer a spiralling pathway to the centre of the space of the congregation.

As we humans pass, the threads reach out.

Like hair cells, made of fluid congealed, they lean into the turbulence generated by movement.

Eleven free-hanging warps set at intervals. Between each warp a space respecting the differences, the idiosyncratic in our corporeal substance.

What sounds may still linger for a listening ear?

Detached from language what current tools allow a spectrum of sound to appear?

[18'30"]

a male voice citing The Lords Prayer The tool used is the software audacity

[Petra Johnson]

Eleven warps rise toward the centre, holding thickened threads at the base of the spiral where the high frequencies roam and finer threads toward the apex, where low frequencies conduct.

Inner hair cells transduce physical energy into a nervous signal.

Hair cells were already present within the lateral line of fish, where they detect nearby bodies and objects and the pattern of water. 'The lateral line receptor is one of the earliest sensory end organs and can be traced back to (the) armoured fishes ... 400 million years ago,' writes sound researcher Patrick Farmer (2019; 35).

Elements we consider human reveal a history of formation and the generativity of pre-human, non-human and more-than-human life forms.

Human bodies adapted these inherited technologies.

Conjuring microelements within our corporeality as embodied technology acknowledges their origin in other organic life forms and their agency in a shared act of creation.

What happens when an enigmatic immediate presence meets an enfleshed presence?

The cultural environment that hosted the discovery of silk hosts also the Daoist understanding of our body as an inner warp. Warp to warp: sensing the softening, the reaching out. Like warps we are lively, affective, and signalling. We get entangled.

That objects have agency is not new. At the time when this chapel was built, such agency was recognised in law. It was named Deodand. The Deodand or deo dandum – literally 'that which must be given to God' ... is a materiality 'suspended between human and thing' (16).

[20'45"]

Passage Six

The Soothing Sounds of Transubstantiation

[Petra Johnson]

'Whose ear are we in?' asks a visitor.

‘One way to convert magic into science is to tie what we do not understand to the frameworks and systems we already have and discard whatever doesn’t fit. The other way is – to recognise – these systems as new ways of reorganising knowledge, transforming the limits of what we consider to be knowledge’ (17).

‘It is said that during a drought in the late 1870s in China... the Dowager Empress T’ung-chih ... liked to sit alone, listening to the low, even, deeply soothing sound of the countless silkworms consuming the new mulberry foliage.’ (18).

Disempowered by the weather, by foreign forces and internal strife, listening to the sound of homegrown ingenuity may indeed be comforting.

It may be more than that.

In the late 1980s, soundscape ecologist Bernie Krause discovered, that *the ear... turned out to be capable of detecting the true state of the habitat much more precisely and truthfully than the eye ever could.* (Fisher; 2015)

The entanglement of life forms, the entanglement of ways of seeing and hearing the world, the trembling of threads and the trembling of our thoughts can thrum (15).

Earthbound worms turn into air-bound moths.

These days moths that manage to emerge can no longer fly.

The sense of loss that an awareness of the changes in the life of the silkworm brings and the delight at the light that the threads brought into the mortuary chapel may be a reminder of what Andreas Weber calls life’s desire to heal: ‘We need to be open to what is felt to be real and needing to be really done.’ (Weber; 2017; 174).

These threads were constantly asking for touch, at times smoothly gliding out of their entanglement into a form that had preceded their existence, at others clinging to the closeness, the intimacy they had lived when layering a cocoon.

To borrow one last time from Patrick Farmer’s poetical language, *Echoes of Voices* was ‘an attempt to communicate with potentials in their own registers’. (Farmer; 2019; 66)

[23‘30“]

A personal essay

by Petra Johnson

Performing Artists

Marceau Chenault

Lily Hayward Smith

Louisa Petts

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Karen Wood

Haruko Walters

Susanne Foellmer

Maximilian Stelzl

[23'40"]

What did you enjoy most?

The sense of place in silence

'It feels... it's so delicate'

[23'50"]

Image Credits

Film clips AC 2022

Reel Master Productions

Film clip extract studio

the body ecologic, 2021

Still Cochlea

C.G.Wright, UT, Southwestern Medical Centre, US 2013

Sketch-Up generated animation Xu Zhifeng

Still Hair Cells

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/how-the-ear-works>

Sketch Layout 2022

Petra Johnson

Cocoon and Thread

Lydon, J (2010)

Still Layout on site 2022

Petra Johnson

Still Cocoon and Larvae	https://fibershed.org./2022/01/19/silk-stories-part-2-yellow-peril-or-green-dressing/
Watercolour 2022	Petra Johnson
Clip site Visit 2022	Lily Hayward Smith
Clip Threads 2022	Petra Johnson
Clips of Yulong County	Petra Johnson

[24'15"]

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[24'24"]

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<https://victorianweb.org/art/parks/coventry/2.html>

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On Sound Archaeology

<https://www.youtube.com/watch?v=wlpak3X6Jtk&list=PL6UFkwpLwtkXIPBDCj7L-XWvNtrCkvlP6&index=17>

On building acoustics

<https://www.youtube.com/watch?v=oROYuoiT6Cc&list=PL6UFkwpLwtkXIPBDCj7L-XWvNtrCkvlP6&index=18>

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[24'29"]

Endnotes

Passage 1

(1) Lashihai – the valley surrounding Lashi Lake is inhabited by Naxi, members of an ethnic minority of approximately 300,000 people in

Northwest Yunnan and parts of Sichuan, China. Naxi language is almost entirely a spoken language, with a formal pictographic and mnemonic writing system used in rituals, and belongs to the Sino-Tibetan language family. See also <https://lijiangstudio.org/mappingtheaffectivelandscape>

(2) place-based as described by David Abrams in https://soundcloud.com/spokenearth/10-david-abram-the-spell-of-the-sensuous?utm_source=la-cuna.org.uk&utm_campaign=wtshare&utm_medium=widget&utm_content=https%253A%252F%252Fsoundcloud.com%252F

[spokenearth%252F10-david-abram-the-spell-of-the-sensuous](https://soundcloud.com/spokenearth/10-david-abram-the-spell-of-the-sensuous)

(3) These select few are called Dongba meaning 'wise men'. Dongba are the cultural specialists of the Naxi people who, amongst other roles, negotiate human needs with nature spirits. See also Yang Fuquan (2003), *Mentorship of Indigenous Cultural Specialists*. Yunnan Science and Technology Press.

(4) This line of thought is inspired by Erik Mueggers observations: 'It is in the cadence that the rhythms of walking are most directly performed, for, unlike most alternations of lines or passages, the cadence occurs at the pace a body takes as it walks.' (Mueggler; 2001; 244)

Passage 2

(5) I came across this observation on Matter/Madre in Zumthor (1998;50)

(6) In any given church or cathedral, there are several qualities of sound at play. First, direct sound – the origin of where a sound manifests, like the strings of a violin. Second come the early reflections. Coming into your ear about a tenth of a second later, these are the sounds that bounce off surfaces where the direct sound is emitted. For example: the vibrations bouncing off the rim of a trumpet. The key player here, however, are the reverberations. These are reflected sounds off surfaces in the air around you. The primary material of churches and cathedrals being stone plays a large part in carrying the sound around a space. Stone walls allow for long reverberation ... Architects planned their placement in such a way that sounds bounce gracefully from one surface to another, with the goal of the sound filling the entire space and lingering in the air.

<https://www.theatreinparis.com/blog/pourquoi-la-musique-sonne-t-elle-si-bien-dans-les-eglises>

Passage 3

(7) see <https://victorianweb.org/art/parks/coventry/2.html>

(8) see <https://historicengland.org.uk/images-books/publications/building-stones-england-warwickshire/bse-warwickshire/>

(9) The terms geophony, biophony and anthrophony were originated by musician and soundscape ecologist Bernie Krause

(10) see <https://www.sandstoneridge.org.uk/doc/D623707.pdf>

(11) Fisher quoting Krause; 2015

Passage 4

(12) see <http://www.silkroadfoundation.org/art1/silkhistory.shtml>

(13) Rough weaving tools have been found alongside fragments of woven silk dating 8500 years ago (Gong;2016).

(14) From the third century CE we have clear evidence that imperial altars for the 'first sericulturists' were established and 'silkworm palaces' were built for raising imperial silkworm. Six silkworm mothers or silkworm maidens were selected to feed and clean the silkworms, under the supervision of the emperor's chief consort, as the imperial household modeled the sericulture process that it mandated throughout the kingdom (Young; 2013)

(15) see <https://biddlesawyersilks.com/how-is-silk-made-a-step-by-step-guide/>

(16) Bennett; 2010;9

Passage 6

(17) Kutch Desert Lab; 2021

(18) Sebald; 2019; 151

(19) the expression thrum used as a noun refers to long strands of fibre; used as a verb it refers to tremble, throb, pulsate.

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