

The Shape of a Circle
in the Mind of a Fish:
The Understory of
the Understory

5-6 December 2020
12-5.45pm
themind.fish

SERPENTINE

INTRODUCTION

ACCESS

PROGRAMME

ABSTRACTS

TEXTS

VANDANA SHIVA

One gram of soil

DAISY LAFARGE

parasite climax

LEENA VALKEAPÄÄ and **OULA A. VALKEAPÄÄ** in conversation with
TARY ELFVING

TIM INGOLD, From science to art
and back again: The pendulum of an
anthropologist, excerpt

ADHAM FARAMAWY, Skin Flick,
excerpt

ASAD RAZA

Make Your Own Soil

BIOGRAPHIES

CREDITS



Merlin Sheldrake, bioluminescent mushrooms (*Omphalotus*). The first submarine, 'Turtle', developed during the American Revolutionary War, used glowing fungi to illuminate its depth gauge. English coal miners in the 19th century reported fungus on pit props that cast enough light to see their hands by.

Photo © Alison Pouliot

INTRODUCTION

The Shape of a Circle in the Mind of a Fish is an ongoing research, publication and festival series on consciousness and intelligence across life forms, dedicated to unpicking those assumptions we make about the centrality and exceptionalism of humanity.

With *The Understory of the Understory*, we go to that place which is simultaneously ground, land, soil and Earth, that is to say, the place where diverse species come together, collaborate, communicate and constitute one another but also where complex systems of redistribution of toxicity, logics of extraction and geopolitics meet.

Since 2018, previous editions of *The Shape of a Circle in the Mind of a Fish* events have addressed animal, human and artificial consciousness, language, and interspecies communication (#1, London Zoo, May 2018), interior multitude, swarming organisms, symbiosis and entanglement (#2, Ambika P3, University of Westminster, December 2018) and plant sentience, intelligence, communication with the vegetal world and forms of eroticism, mysticism and healing (#3,

Institut Français du Royaume Uni and Earth Hackney, April/May 2019). *The Understory of the Understory* marks the first time that the Fish series is held online, at themind.fish

The title of the festival series uses as a conceptual starting point the way in which mating puffer fish draw ornate circles in the sand of the seabed: maybe an image for us humans, looking from above, but also a movement, almost a dance, for this little fish. From that thought extends a reflection on communication, creativity and intelligence across species, towards a deep ecological understanding of life.

The Shape of a Circle in the Mind of a Fish is curated by Lucia Pietroiusti (Curator, General Ecology, Serpentine Galleries) and writer Filipa Ramos with Kostas Stasinopoulos (Assistant Curator, Live Programmes, Serpentine Galleries) and produced by Holly Shuttleworth (Producer, Serpentine Galleries). Visual identity by artist Giles Round.

The Shape of a Circle in the Mind of a Fish is part of the General Ecology project at Serpentine Galleries.

ACCESS

The stream will have subtitles available throughout and will be accompanied by a live BSL stream. The following artworks will have audio-described versions, which will be made available via Serpentine's Twitter account and on themind.fish: *The Coven Intelligence Program, Which plant would you choose to teach ethics to artificial intelligence?* (2019), Adham Faramawy, *The air is subtle, various and sweet* (2020), Karrabing Film Collective, *Just because you can't see it...* (2018) Asad Raza, *Ge* (2020), Ayesha Tan Jones, *Into the Earheart – a walk, a conversation, an exchange* (2020), Leena Valkeapää and Oula A. Valkeapää, *Manifestations* (2017).



Audio Descriptions: Selected artworks will have audio descriptions. These are marked in the programme



BSL: Livestreamed BSL will run throughout the festival



Subtitles: All of the participations are subtitled

PROGRAMME

Saturday 5 December,
12pm-5:45pm GMT

12pm-2pm GMT

BETTINA KOREK, Introduction

LUCIA PIETROIUSTI and **FILIPA RAMOS**,
Introduction

HANS ULRICH OBRIST, Introduction and
conversation with **TIM INGOLD**

MARIA PUIG DE LA BELLACASA, *When
the word for world is soil. Notes on the troubles of
ecological belonging*

ALEX MCBRATNEY in conversation with
ASAD RAZA

LONG LITT WOON, *The Way Through the
Woods: On Mushrooms and Mourning*

2pm-4pm GMT

LYNNE BODDY, *Death and Decay – The Keystone
of Life in the Natural World*

ANGELICA PATTERSON, *Seeing the Forest for
the Trees: A Look into the Physiological Responses of
Temperate Trees in a Warming World*

ELIZABETH-JANE BURNETT, *Little Peach*

MERLIN SHELDRAKE, *Entangled Life*, followed
by a conversation with **FILIPA RAMOS** and
LUCIA PIETROIUSTI



LEENA VALKEAPÄÄ and **OULA A.
VALKEAPÄÄ**, *Manifestations*

ELIZABETH POVINELLI, *Melting Glaciers,
Rising Seas. When I am no longer a human, but nor
am I a fish*

4pm-5:45pm GMT

THANDI LOEWENSON, *A Taxonomy of Flight*

ELAINE GAN, *Magtanim Ay Di Biro: Planting Rice
Is No Fun, Bent From Morn Till the Set of Sun*



KARRABING FILM COLLECTIVE, *Just because
you can't see it...*

ASIM KHAN, *Decomposition into Ghazal*

KOSTAS STASINOPOULOS, *Introduction*



AYESHA TAN JONES, *Into the Eartheart - a
walk, a conversation, an exchange*

YAYA BONES, *EARTHEART*

PROGRAMME

Sunday 6 December
12pm-5:45pm GMT

12pm-2:30pm GMT

LUCIA PIETROIUSTI and **FILIPA RAMOS**,
Introduction

YASMEEN LARI and **SUMAYYA VALLY**,
Letters to architecture, letters to the planet and a love
letter to a young architect of colour

TIM INGOLD, *Creatures of the soil, reborn*

DAISY LAFARGE, *Life Without Air*

ANDREW ADAMATZKY in conversation
with **MERLIN SHELDRAKE**

KOSTAS STASINOPOULOS, Introduction

ADHAM FARAMAWY, *The air is subtle,
various and sweet*

JAY G YING, *Requiem*

2:30-4:30pm GMT

JAMES FAIRHEAD in conversation with
MERLIN SHELDRAKE

AD)))

THE COVEN INTELLIGENCE PROGRAM

(Efrén Cruz Cortés, Margaretha Haughwout, Suzanne Husky), Which plant would you choose to teach ethics to artificial intelligence?

SIMONE KOTVA, An Enquiry Concerning Nonhuman Understanding: Mysticism and Plant-Thinking

SUMAYYA VALLY, COUNTERSPACE, Ingesting Architectures

4:30-5:45pm GMT

DAISY LAFARGE, *We eat each other up*

MARISOL DE LA CADENA, 'Cow sex' in translation: what if what we see as 'cow sex' they (cows) engage in as play? in conversation with **FILIPA RAMOS** and **KOSTAS STASINOPOULOS**

SEAN CHO A., *About the Soul*

AD)))

ASAD RAZA, *Ge*



The Coven Intelligence Program, Which plant would you choose to teach ethics to artificial intelligence?, 2019, still

ABSTRACTS

TIM INGOLD in conversation with
HANS ULRICH OBRIST

MARIA PUIG DE LA BELLACASA

When the word for world is soil. Notes on the troubles of ecological belonging

How can thinking with contemporary transformations in human-soil relations nurture the imagination of caring earthly futures amidst ongoing eco-social catastrophes? Rewording Ursula K. Le Guin's title, *The Word for World is Forest*, *When the word for world is soil* is an invitation to immerse in the material, aesthetic and ethico-political more than human evocativeness of soil-centred worlds, without losing sight of the multi-layered, conflictive and ambivalent significances that mark human-soil ecological belonging on this troubled Earth, while exploring possibilities for insurgent and hopeful ecological futures.

ASAD RAZA in conversation with **ALEX MCBRATNEY**

In this conversation artist Asad Raza talks with soil scientist Alex McBratney about soil across science and art, as well as *Absorption*, an artwork

by Raza with the collaboration of McBratney which generates neosoil from urban waste.

LONG LITT WOON reads from *The Way Through The Woods. Of Mushrooms and Mourning*. Her book is about two journeys: an outer journey where she discovers the kingdom of fungi and where she gets to know the mushroom picking tribe, and an inner journey in the landscape of grief.

LYNNE BODDY

Death and decay – The Keystone of Life in the Natural World

They rot our food and our homes, and are a major nuisance – or at least that might be the first impression. Some fungi can certainly inconvenience us sometimes, but the truth is we would not be here without them. Planet-wide, land plants form about 150 petagrams (15,000,000,000,000,000 kg) of new plant material every year. Similar amounts of dead material are produced. If these were not broken down again into its constituent parts then we would be up to our armpits in dead stuff. Aside from this inconvenience, ecosystems would run out of nutrients for plants to use to grow, as the nutrients would be locked up inside dead material. So, every year, in balanced ecosystems, similar amounts of material are decomposed to that which has been produced. Many organisms

play a role in this process, but on land, fungi are by far and away the most important. This is because their fine hyphal filaments can penetrate into solid, bulky organic materials rather than being confined to surfaces. Moreover, it is only fungi – and a relatively narrow range of them – that can significantly breakdown the complex lignocellulose molecules that make up woody plant tissues over relatively short time scales. Without fungi nutrients would not be recycled, and the terrestrial ecosystems of our planet would not function. There is also the potential to harness this amazing decomposer ability to clear up problems of our own making, e.g. decontamination of polluted soils, and breakdown of plastic waste. The fungal rotters are also hugely important in making habitat for other organisms. Consider a hollowing tree – worldwide over 1,000 vertebrate species are dependent on this habitat that fungi have created. In the UK alone 1,700 species of minibeasts depend on this rotten wood.

This talk of breakdown may sound a tad boring, but it is far from it. Not one but many fungi are involved in the breakdown process, and when they meet they fight. These battles are brought about in a variety of ways, including by making chemicals that attack other fungi and bacteria. Antibiotics such as penicillin are one example of such a chemical, and another reason why we are indebted to fungus rotters. All of these aspects and more will be covered in this rotten talk.

ANGELICA PATTERSON

Seeing the Forest for the Trees: A Look into the Physiological Responses of Temperate Trees in a Warming World

The forests of the northeastern US are globally one of the fastest growing terrestrial carbon sinks, due to historical declines in large-scale agriculture, timber harvesting and fire disturbance. However, climate-induced tree migration is altering forest community composition and carbon dynamics. The investigation of tree physiological responses to temperature across resident and migrant trees in a northeastern US forest provided evidence that suggests that resident species may have a physiological disadvantage compared to their migrant counterparts. Compounded with this result, an array of ecological disturbances further threatens the dominance of resident trees, resulting in species replacement that may reduce the carbon storage potential of northeastern US forests.

ELIZABETH-JANE BURNETT, *Little Peach*
Reading, from *The Willowherb Review*,
issue 2: Embers

MERLIN SHELDRAKE in conversation with
LUCIA PIETROIUSTI and **FILIPA RAMOS**

Merlin Sheldrake introduces and discusses his recent publication. In *Entangled Life*, Sheldrake portrays the world from a fungal point of view, providing an exhilarating change of perspective. Sheldrake's vivid exploration takes us from yeast to psychedelics, to the fungi that range for miles underground and are the largest organisms on the planet, to those that link plants together in complex networks known as the "Wood Wide Web", to those that infiltrate and manipulate insect bodies with devastating precision.

LEENA VALKEAPÄÄ and **OULA A. VALKEAPÄÄ**
Manifestations, 2017, 15'

Manifestations is a compilation of text messages and emails Oula A. Valkeapää sends to his partner Leena. The verbal and visual messages describe Oula's Sami background and his life with reindeers. They reveal the parallel existence of the everyday and the mysterious through Oula's experiences. The messages catalogue various events in an often dream-like reality and include documentary footage, photography, poetry and less formal texts. The two different media convey knowledge of Sami culture and its mysticism, which are documented by the poetry of the work. *Manifestations* is a dialogic work produced by two artists. Leena's role is to

be an inspiring and inquisitive receiver. She also records and edits material produced by Oula and supplements Oula's narratives with her own images. *Manifestations* is a collage where word and image are conjoined in an intensive meditation on being. The manifestations of the work also create an air of questioning where the questions become a part of life, without the need to find clear answers. Living with questions and the mystery of life creates a space for creativity.

ELIZABETH A. POVINELLI

Melting Glaciers, Rising Seas. When I am no longer a human, but nor am I a fish

A visual essay on the shape of the human as the shape of the fish alters at the intersection of the melting glaciers lying above Povinelli's paternal Trentino village and the rising seas along her Karrabing family's saltwater homelands.

THANDI LOEWENSON

A Taxonomy of Flight

This is a work concerned with the matter and movement of Blackness on, and of, Earth, and particularly with lines of flight; how travel through space and time is made possible in the face of the prohibition and foreclosure which attends so closely – so stiflingly – to the condition of Blackness. This would seem to be

an impossibility, but as with so much in our universe, quantum entanglement is spooky and surprising; one can be talking about flight – about Black flight – taking off, whilst tethered to the ground.

ELAINE GAN

Magtanim Ay Di Biro: Planting Rice Is No Fun, Bent From Morn Till the Set of Sun

A dearly loved folk song in the Philippines, *Magtanim Ay Di Biro* is repurposed in this presentation as a critical-creative prism through which the act of planting rice may be seen as an iterative co-constitution of cultivator and cultivated through soil, water and sunlight. Which is figure and which is ground? Planting is a relational technology cobbled together through multiple rhythms of land and life that simultaneously embody and exceed the ruptures of colonial violence.

KARRABING FILM COLLECTIVE

Just because you can't see it... (2018, 2'36")

Originally produced for Dazibao, Montréal, *Just because you can't see it...* is a serious, sometimes humorous, reflection on Karrabing understandings of the ancestral present – that their totems and ancestors are not in the past, but are an ongoing relationship they are

obligated to maintain for their own health and wellbeing and that of their more-than-human lands, seas and worlds.

ASIM KHAN, *Decomposition into Ghazal*

Reading, from *The Willowherb Review*, issue 3:
Habitation

AYESHA TAN JONES

Into the Eartheart – a walk, a conversation, an exchange

Ayesha Tan Jones and Kostas Stasinopoulos take a walk among ancient trees, atop webs of mycelium and the matrix of the earth itself. Soft hands plunging into soft clay, sculpting sounds with their voice, Tan Jones invites us into their portal. They share melodies and insight from their debut EP, *EARTHEART*.

YAYA BONES

EARTHEART

EARTHEART, from nonbinary audio alchemist YaYa Bones aka Ayesha Tan Jones, is a ceremonial invitation into becoming. Becoming more like soil. Composting the binaries and mulching the patriarchy – *EARTHEART*.

Incorporating sound healing frequencies with their own genre – dream n bass, *EARTHEART*

is an alchemical audio ascension through the tender realms of non-binary-more-than-human-love-songs, elemental evolutions and operatic raptures.

With songs and spells three years in the making, *EARTHEART* is the emergence of many more sonic sounds to come from the shapeshifting dragon-dreamer YaYa Bones.

YASMEEN LARI AND SUMAYYA VALLY

Letters to architecture, letters to the planet and a love letter to a young architect of colour

Ecological and architectural entanglements between India-Pakistan, Sub-saharan Africa and London. In this conversation, Sumayya Vally and Yasmeen Lari talk about Lari's life, work and evolution as an architect, researcher and activist.

TIM INGOLD

Creatures of the soil, reborn

In his *New Science* of 1725, Giambattista Vico suggested that the word 'human' came from the Latin for soil, *humus*, and from the verb 'to bury', *humando*. Humans, then, were creatures of the soil who bury their dead. Yet the Enlightenment project, of which Vico himself was a leading exponent, would upend this logic, emancipating humankind from earthly bondage and cutting all ties to ground, place and nature. The modern concept of humanity has its source in this inversion. In this talk Ingold explores its consequences for the way we think about ground and soil. As Enlightenment humanism is itself buried in the rubble of environmental destruction and social injustice, a return to the soil, Ingold suggests, offers hope for rebirth and renewal.

DAISY LAFARGE

Reading, from *Life Without Air*

ANDREW ADAMATZKY in conversation with
MERLIN SHELDRAKE

Professor of Unconventional Computing, Andrew Adamatzky discusses his research in fungal computing with mycologist and author of *Entangled Life*, Merlin Sheldrake.

ADHAM FARAMAWY

The air is subtle, various and sweet (2020, video, 35')

Adham Faramawy has produced an audiovisual work comprised of sketch-like performance for camera, spoken word, field recording and found footage of their father (artist and musician Saeed Faramawy). The work attempts to explore Faramawy's relationship, as a person of colour, with ideas of 'the land', plant taxonomy (thinking about whether a body is understood as native, whether this means it's desirable), ideas of roots and heritage, relating this exploration to the recent passing of their father, their relationship with him and his strong affinity as an artist and musician with his falahi (rural/farming) roots and his home town of Toukh (north of Cairo in the Al Qalyubia Governorate).

JAY G YING, *Requiem*
Reading, from *The Willowherb Review*,
issue 1: Liminality

JAMES FAIRHEAD in conversation with
MERLIN SHELDRAKE

In this exchange, anthropologist James Fairhead and mycologist Merlin sheldrake discuss termite-soil-human collaborations as well as the wondrous lives of fungi.

THE COVEN INTELLIGENCE PROGRAM
(EFRÉN CRUZ CORTÉS, MARGARETHA
HAUGHWOUT, SUZANNE HUSKY)

Which plant would you choose to teach ethics to artificial intelligence? (2019, 27')

In some Native languages, the term for plants translates to “those who take care of us.”

- Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants* (2013)

AgTech is harvesting massive amounts of data on plants. How do we complexify what is being collected? How do we create data that challenges the perception of plants as isolated bodies and resources? In this film, herbalists, shamans, ethnobotanists, witches answer the question “Which plant would you choose to teach ethics to AI?”. In their worlds, plants are ancestors,

allies, friends, teacher beings. The video mashes AgTech videos of current uses of AI, ranging from labs to industrial ag, to drone plantations, as well as occidental medieval and renaissance art that gives context to current polarisations of human-plant relations. This film is part of a larger set of inquiries and actions by the Coven Intelligence Program, whose mission is to cultivate revolutionary alliances between plants, witches and machines.

SIMONE KOTVA

*An Enquiry Concerning Nonhuman Understanding:
Mysticism and Plant-Thinking*

This talk engages the homology between mysticism and plant-thinking, a homology between two forms of non-human understanding, drawing on the recent work of Michael Marder and the spiritual technologies attested in the Christian mystical tradition. Not only do we find ourselves, when reading Marder's vegetable soteriology, once more in the presence of the mystic's "plant" attentive to the "sun of justice", but, in the description of the plant's passive attentiveness we find ourselves also face to face with the mystic's God, whose mode of understanding is itself radically open to all that is and whose attentiveness reveals itself as the language of vegetable of being.

SUMAYYA VALLY, COUNTERSPACE, *Ingesting Architectures* (2014, 2015, 2020, ongoing, 13'15")

Architecture is a condensation and an overlaying of times, stories, field notes, excerpts, archaeologies and forensic samplings. This reflection on atmospheric violence weaves and traces together excerpts and discursive evidence of the inextricable connections between geographies, history, forces of labour, race and class struggles, capitalism, toxicity and climate change.

DAISY LAFARGE

We eat each other up

We eat each other up is a presentation of poetry and prose on difficult love and antagonistic attachments. Poems from Lafarge's recently published collection *Life Without Air* is interspersed with a reading from *Lovebug*, a work in progress that explores infection from the perspective of intimacy. *We eat each other up* will considers the various appetites of Simone Weil, Schistosoma flatworms, Aristophanes' conjoined lovers and the cannibalistic origins of meiotic sex.

MARISOL DE LA CADENA

'Cow sex' in translation: what if what we see as 'cow sex' they (cows) engage in as play?

Marisol de la Cadena's conversation with Filipa Ramos and Kostas Stasinopoulos starts with the assumption that cows, de la Cadena's generic word for all cattle, acquired sex in the process of their domestication by humans. The process was anthropomorphic because the sex we granted them was the sex we knew, i.e. human sex; anthropomorphism can be generous, and it can be enormously selfish, it can become ruthless anthropocentrism, and this is the case of the current industry of cow reproduction.

Anthropomorphic cow sex began its journey towards anthropocentrism in the 18th and 19th centuries when what had just been "cow sex", becomes an instrument for 'breeding' and integrates a reproductive technological infrastructure that has not ceased to expand. Currently 'breeding' is an expansive industry moved by an enormous genetic force that is owned and constantly incremented by biocapital, that super productive alliance between the producers of the biological sciences and the definers of the economy. Because the expansive capacity of capitalist cattle breeding relies on anthropomorphic cow sex, we want to take it out of the picture. It has become anthropocentric; cow sex serves humans, and some more than others. In the process, it has depleted what we see as cow sex from the fun play that cows can engage in. What if what we see as cow sex, cows see as fun and play? Starting with this question, we translate 'play'

into ‘cow sex’ again to produce an analytical site from where we can follow/see the constant and varied forms in which play is arrested – literally – to produce ‘cow sex’ as a site of bio-capitalist reproduction. Maybe on answering this question we can imagine forms of giving back to cows the fun play in what we see as cow sex.

This thought experiment acknowledges the contributions of Paul B. Preciado, Eduardo Viveiros de Castro, Donna Haraway, and Marilyn Strathern.

SEAN CHO A., *About the Soul*
Reading, from *The Willowherb Review*,
issue 3: Habitation

ASAD RAZA

Ge, 2020 (4K digital with audio description and subtitles, 10’29’’))

Ge is a newly commissioned piece combining a study of the environs surrounding James Lovelock’s cottage in Dorset and a recipe for making soil at home. It is designed to be watched in various configurations, with and without audio description and subtitles.

Note: the 10-minute video will play twice: once in its original version, and once immediately afterwards with audio descriptions devised by the artist for this occasion.

THE WILLOWHERB REVIEW

Elizabeth-Jane Burnett, Sean Cho A., Asim Khan and Jay G Ying were invited to read from their work as part of a collaboration with The Willowherb Review. The Willowherb Review's third issue, Habitation, is now online.

UPCOMING IN 2021:

FUTURE ECOLOGIES considers itself a hot compost: layers of raw material, collected and processed into a porous, spongy media – support for life and food for thought. Through some steamy rumination (and moderate amendment), they hope to generate a story from *The Understory of the Understory*. What comes out may not sound exactly like what went in, but they guarantee that strands will be knit, volatile elements will be rendered stable, and inputs will be thoroughly digested – recognisable, but transformed.

UNDERSTORIES FROM THE UNDERSTORY

The upcoming weeks will brew the *Understories of the Understory*, as new and previous festival participants will respond, comment, interact and expand on the visions, ideas and proposals initiated during *The Understory of the Understory*, starting with a conversation between The Shape of the Circle in the Mind of a Fish with Plants participant, philosopher Michael Marder and Simone Kotva on her talk *An Enquiry Concerning Nonhuman Understanding: Mysticism and Plant-Thinking*. Keep an eye on themind.fish for further Understories.



Future Ecologies meets a large Sitka Spruce

VANDANA SHIVA

One gram of soil

A scientific study analysed a cubic metre of soil, just one cubic metre, and found in it 50,000 small earthworms, 50,000 insects and mites, 12 million round worms. One gram of soil, just one gram, contains 30,000 protozoa, 50,000 algae, and 400,000 fungi. Now when we apply chemical fertilisers we don't see how all of this amazing biodiversity in the soil is being killed.

For example, fungi include this amazing function of microrising soil, and in one cubic inch there are eight miles of these fungi. Eight miles in one cubic inch! And what do these fungi do? Eight miles long, it goes to a plant far away, where there's some potassium, picks it up and brings it to the plant that needs it. I always feel that our model for compassion and cooperation has to be the microriser fungi - how it constantly helps. It brings what's needed from where there is abundance to where there is scarcity, and constantly establishes equilibrium and harmony. On the wonder of compassion, we can learn from the microriser.

Or take another organism in the soil, the earthworm. Darwin is known as a great biologist, but he wrote a book at end of his life dedicated to the earthworm, in which he said it may be doubted whether there are many

other animals which have played so important a role in the history of creatures. He called it the most significant of species. The little earthworm working invisibly in the soil is actually nature's alternative to the tractor and the fertiliser factory. By their movement through the soil, these earthworms create channels for the air and channels for water. And plants have 30% more air to breathe in the soil. The aeration increases by 30% due to the work of these earthworms.

There's been a lot of talk, including an exchange I had with farmers on the 17th, about how there's intense rain in this region and then it's dry. So in a dry period the most important challenge is having enough soil moisture. Soils in which the earthworms have worked and created channels have 20% more water. And the earthworm casts, which can be up to 40 tons of weight per acre per year, contain more nutritive material than artificially fertilised soil. The castings of earthworms add 5 times more nitrogen, 7 times more phosphorous, 3 times more magnesium to soil, compared to soil without those castings, and 11 times more potassium and 1.5 times more calcium than chemically fertilised soil. Is that clear? So you could think of adding all the nitrogen, phosphate, potassium from outside, but if you

are killing the original organisms that make these elements and more, you're actually going to have a nutrient deficit, and that is why in chemical farming, after a while, your yields go down.

*excerpt from a speech by Dr. Vandana Shiva, delivered at the launch of the Samdrup Jongkhar Initiative on 19th December 2010, at Chokyi Gyatso Institute, Dewathang, Samdrup Jongkhar, in the presence of the Honourable Prime Minister of Bhutan and more than 500 residents of the dzongkhag.

DAISY LAFARGE

parasite climax

the clouds are polyamorous
wanting one and both

an earworm's auto-eroticism
rubs a brain against itself

a woman self-seeds
her elements through the city

wondering if the species
that didn't emerge

live on as contrails
of alignment

currents of the possible
and possible not;

gutless borders of the world
dig on



Daisy Lafarge, from *Life Without Air*
(London: Granta, 2020). Image:
Schistosoma mansoni. Medical Care
Development International



We are manifestations of the whole

Leena Valkeapää and Oula A. Valkeapää, Manifestations, 2017,
still from single channel HD video, sound, 15'

LEENA VALKEAPÄÄ and **OULA A. VALKEAPÄÄ**
in conversation with **TARY ELFVING**, Vdrome,
November 2018.

Manifestations allows an intimate view into the Arctic landscape, where the fates of humans and the reindeer are deeply entangled. Everyday messages and observations convey glimpses of engaged modes of knowledge in a changing life world.

TARU ELFVING: To start with, what do manifestations refer to here?

OULA A. VALKEAPÄÄ: Manifestations refer to forms of life. Manifestation is a perception of life and as such a being in itself. Manifestations are born out of observations, in those points of friction, where a human is part of the landscape yet also apart from it. As the narrator in the work, I also see myself as a manifestation of my environment.

LEENA VALKEAPÄÄ: The work invites viewers to visit Oula's world with him and to follow what this environment manifests to him. At the heart of it there's life with the reindeer. The reindeer survive in demanding conditions and allow humans to live in this same landscape. This world becomes apparent in the work through everyday lived encounters. The lives of humans and animals appear entangled yet

distinct. Similarly, the landscape affects the human and vice versa. The reindeer convey particular kinds of perceptions. There is a lot of situation-specific knowledge in the work. Take, for example, the waiting for the sun. During the summer, when it gets hot in the sun, the reindeer form a compact and tame herd. It is possible to approach the animals and lasso the calves. Anticipation for the sun means living in and recognising the right moment.

TE: The interwoven co-existence of human and the reindeer implies also communication beyond the sphere of human language and signification. Meanwhile the work emphasises poetics without words. What is the role of the human as a mediator here? Or the significance of the medium, the mundane sms text and picture messages that characteristically capture and condense a moment?

LV: Oula is a mediator here, relaying his experience and the manifestations as observations detached from the whole. Intensity of temporality gives the work its particular tone and poetics. When the sun disappears behind the clouds, the moment is gone. The work is based on our dialogue, as I have received these messages from Oula. Messaging requires a desire to stay in touch, proximity as well as distance. Usually I receive these messages when I am at home and he is out in the hills.

TE: Could you expand on this dialogical artistic and research methodology?

LV: My artistic work became research-led when I came to live within the reindeer herding Sami life world. First of all, I wondered how Oula perceived the landscape as cramped, while I only saw boundless open space. I discovered novel phenomena in the everyday, such as how the turning of the wind can severely impact the plans. At times the wind supports the reindeer, at other times it makes their survival challenging. Trying to understand the cultural relationship with the reindeer, the poems by Sami artist Nils-Aslak Valkeapää guided me. I began to also pose questions to Oula and sometimes I got responses as text messages after a long while. I noticed the messages contain same foundational elements of life that are found in his uncle's poems, emerging directly from his observations. These answers formed the base of my doctoral thesis, and some are also included in this work.

TE: The work consists of archive material—personal text messages—and documentation of an environment and a way of life. Yet it differs significantly from documentary as well as anthropological narration. How would you describe this approach in your artistic practice to its environment and subject matter?

LV: The messages arise from a mode of life that is deeply engaged with nature. This engaged life gives also the possibility to be captured and amazed by the environment. That is what sustains the creative process—likewise the constant testing, reflecting the artistic thinking back to the practice and the life world. The work does not therefore follow an anthropological approach, where someone else positions the camera, poses questions and explains the events. Here, Oula has decided on the content of the messages and the images. Viewers do not, however, see him but rather encounter his views and thoughts. They get to stand alongside and share some of his particular human experience.

TE: How do you see the future from this specific Northern perspective?

LV & OV: The work is an image of our time in the ceaseless flow of change. Technology is making ever more tangible the destructiveness of our mode of life. We are aware of the complicated global interrelations of environmental concerns. Personal connection with the reindeer carries with it a long cultural continuum. Only one generation ago, life with the reindeer was sustainable. We can still recognise this ecological way of existence, but now we are living through numerous extremely complex transitions simultaneously. Our work is a record of an experience, which the next

generation may not get to have but may perhaps sense in some way, for example in the wind and the sun.

The parallel existence of local tradition and global contemporaneity opens up two distinct views. We acknowledge the past that no longer is, while sensing signals of the yet unknown future. It may be that our work has emerged out of a need to wonder at human existence and the myriad ways in which we belong to the universe. Questions arise about co-existence with diverse visible and invisible phenomena, with different beings such as rocks, trees and the reindeer.



Lynne Boddy, Zone Lines

TIM INGOLD

From science to art and back again: The pendulum of an anthropologist, excerpt

Precisely forty years have passed since I began my career as a professional anthropologist. The achievement of this milestone has prompted me to reflect on what has happened to me and to anthropology over those four decades, from when I received my doctoral degree and took up my first teaching position, to today, now that I am taking my first steps towards retirement. What strikes me overall about these decades is that while I began with an anthropological orientation that was strongly inclined towards the natural sciences, I now find myself most closely aligned with the disciplines of art, architecture and design. And while my position has of course shifted over the years, it seems to me that the shift has been just as much on the sides of both the arts and the sciences. On the one hand, natural science is not where it was forty years ago – and here I am referring particularly to the fields of ecology and evolutionary biology with which I have been most closely associated in my work. But nor, on the other hand, are the arts where they were. Interpreted broadly to include architecture and design, it appears that the arts have shifted laterally to take up much of the field, and the position, from which science has abdicated. Or to put it in a nutshell, the people who are doing

what I understood – forty years ago – to be science are now artists. What in the meantime has happened to science is an issue to which I will return.

[...]

What happened? A year of studying natural sciences at the University of Cambridge put paid my illusions. After the excitement of school science, lectures at Cambridge were an intense disappointment. I found much of what was taught intellectually claustrophobic, dedicated to the regimented and narrow-minded pursuit of objectives that seemed remote from experience. Unlike many of my fellow students, outraged by science's renunciation of its democratic principles and its surrender to the megamachines of industrial and military power – this was, after all, a time when the war in Vietnam was at its height – I never became radically hostile to the scientific project. But I could see no future in it for myself. I wanted to study something in which there was room to grow, where I could discover the world and myself at the same time. And that was what led to anthropology. It appealed to me (rather as D'Arcy Thompson's biology had done before) as a kind of pure mathematics of real life, where experience and imagination could come together as one. And so began my odyssey, my journey home. Proceeding on my way, far from drifting ever further from the truths I had absorbed in

childhood, I found myself ever returning to them, and furthermore defending them, with all the force that I could muster, against the onslaught of adult disciplinary oppression. I have fought this campaign over the territories of biological and cultural evolution, human and animal environments, the realms of thinking and making, and the competing claims of art and science.

My father, as I mentioned, was a mycologist. His was a homely science, involving walks along river banks where he would collect the scum that often accumulates in brackish pools, bringing it home in glass phials to be investigated under a microscope set up on our dining room table. He had improvised an elaborate contraption involving a pile of volumes of the Encyclopaedia Britannica, a glass plate, and an early version of the anglepoise lamp, which allowed him to project the forms of the fungi revealed under the microscope so that they could be accurately drawn. This he did with the utmost care, using a mapping pen, Indian ink and high quality Bristol board. Though he would never admit to it, this was his way of honouring the forms of nature, of not just contemplating their beauty but knowing them from the inside; and the results were true works of art. He loved his fungi. But perhaps what I did not realise at the time was that as a field of the botanical sciences, mycology is a deeply subversive discipline. Fungi, you see, just

don't behave as organisms should. We typically describe the organism as a blob-like entity with an inside and an outside, bounded by the skin, and interacting with the surrounding environment across the boundary. But fungi are not like that. They leak, they ooze, their boundaries are indefinable; they fill the air with their spores and infiltrate the ground with their meandering, ever-branching and ever-extending fibres. What we see above ground are merely fruiting bodies, like street-lamps which cast their aerial illumination only thanks to hidden, subterranean circuitry.

The mycologist Alan Rayner once remarked to me, in passing, that the whole of biology would be different had the mycelium – rather than, say, a mouse or a sea urchin – been taken as a prototypical exemplar of the organism. Many years later, this thought would come back to haunt me, as I was developing a notion of what I called the «mycelial person». What if we were to think of the person, like the fungal mycelium, not as a blob but as a bundle of lines, or relations, along which life is lived? What if our ecology was of lines rather than of blobs? What then can we mean by “environment”? People, after all, don't live inside their bodies, as social theorists sometimes like to claim in their clichéd appeals to the notion of embodiment. Their trails are laid out in the ground, in footprints, paths and tracks, and their breaths mingle in the air. They stay alive only as long as there is

a continual interchange of materials across ever-growing and ever-shedding layers of skin. Thus, just as mycology subverts deeply held intuitions in the biological sciences, so – it now seems to me – anthropology does the same for the social sciences. Anthropologists, mycologists of the social, are the awkward squad, the jesters, the fools, who sidle up to power and chip away at its pretensions. And perhaps their awkwardness lies in precisely this: that they see a world of intricately enmeshed relations rather than one already divided into discrete and autonomous entities.

We anthropologists are predisposed, therefore, to what could be called a relational rather than a populational way of thinking, to a view of the world more topological than statistical. And if anything, this has set us ever further apart from mainstream social science. Once again, this has its exact counterpart in bioscience. In the latter years of his life, my father used to rail against the way, in his view, biological science had lost touch with the reality of living organisms. He found much of the literature incomprehensible. It was produced by modellers who had never observed or handled anything that lived or grew upon this earth, and who spent their time in laboratories or in front of computers, analysing massive datasets spewed out by machines from the stuff fed into them. In the spectacular and lavishly funded rise of e-social science we have seen much of the same. Fuelled by the digital

revolution, it has become an immense data-processing exercise from which the people have effectively disappeared. In the social as in the biosciences, qualitative field-based inquiries with living people or living organisms are increasingly regarded as naïve or amateurish. It is as though science had turned its back on the living, avoiding sentient involvement of any kind. In this brave new world, life is disposable, and its forms – whether human or non-human – are mere grist to the mill of data-analytics, the purpose of which is to produce results or “outputs” whose value is to be judged by measures of impact or utility rather than by any appeal to truth.

A datum is, by definition, that which is given. But what today’s scientists count as data have not been bestowed as any kind of gift or offering. To collect data, in science, is not to receive what is given but to extract what is not. Whether mined, washed up, deposited or precipitated, what is extracted comes in bits, already broken off from the currents of life, from their ebbs and flows, and from their mutual entailments. For the scientist even to admit to a relationship of give and take with the things in the world with which he deals would be enough to disqualify the inquiry and any insights arising from it. Ideally he should leave it all to his recording equipment and exit the scene, only to return to register the outcomes once the job is done and to transfer them to a databank or storage

facility for safe keeping. That this is impossible in practice – especially in the field sciences for which the laboratory is nothing less than the world we live in, and from which there is no escape – is often considered a shortcoming, a weak point in the methodological armoury that could compromise the objectivity of the results. For what is methodology, if not a shield to protect the researcher from direct sensory contact with materials? The prescriptions of methodology treat the researcher's own presence not as an essential prerequisite for learning from what the world has to offer us, but as a source of observer bias to be reduced at all cost. Any science that fails in this regard is considered to be methodologically “soft”, and anthropology by that measure – and mycology too, as my father used to practise it – is positively squishy.

*excerpt from "From science to art and back again: The pendulum of an anthropologist", excerpt, ANUAC, Vol.5, Issue 1, (June 2016), 5-23.



ADHAM FARAMAWY, *Skin Flick*, 2019, HD video, sound, 13'40"

ADHAM FARAMAWY, *Skin Flick*, 2019, script excerpt.
Watch the film online at Vdrome from 24 November -
7 December 2020, vdrome.org

Section 6 (*A Mushroom Death Cult*)

The sex life of plants is a complex affair.

Plants and animals, even understood as other
than people,
are ubiquitously queer.

Not naturally so, but plants insinuate forms of
polymorphous
perversity, unimaginable to human bodies.

Under scrutiny, our own sexualities become
illegible,
unfamiliar.

I wish my desires were more vegetal, fungal.

My micro-biome, the bacteria in my gut, shines
a light to guide
the way.

They show me a vision of my body as a multi-
species matrix
fighting its way through the city.

I let my arms drift upwards, spreading they
embrace a sticky
sweet night.

Everything outside loosens, distends, nothing
solid to hold
onto.

I look up at my arms, my hands and find them
replaced by
screens showing Cindy Crawford drinking Pepsi.

She stands on a suburban street and I think
about cola rotting
my gut.

I think about toxins.

Plastic bags and bottles, cans, containers and
packaging,
excess, floating like a city in the ocean.

Octopus milk drips slowly from sucker shaped
teats, mutated.
Pesticides drift in the air, drooling into the
water; while
underground, mushrooms build a city in the
roots of plants,
reaching up through the trees.

No forest without them, no bees without them.

I let my mind wander and I think of my death.

I want to be buried in a mushroom death suit. I
want them to
eat me, metabolise me, and the toxins in my
body.

mercury and lead
contaminants
accumulating over a lifetime
they won't be left to pollute the soil

As I kiss the back of your knee
You spit on me

dust to dust

It doesn't feel right
your body mingling with mine
Your white teeth spill benzene
pores oozing freon

My body shouldn't be this toxic

When I decompose
I want the earth around me fruitful

I want to be a tree like Daphne

Transforming from a patch test on my skin,
growing through

the worms, the mushrooms and the bacteria

I want to become an apple tree in an orchard of
apple trees

*The mushroom death suit referred to in
Faramawy's text is based on an artwork by Jae
Rhim Lee



Asad Raza, *Absorption*, 2019. Installation view, *Down to Earth*, Gropius Bau, Berlin, 2020. Photo: Eike Walkenhorst

ASAD RAZA

Make Your Own Soil

300 ml sand

300 ml clay

300 ml vegetable matter including lentils and sweet potato

30 ml soil (the inoculum)

20 g hair

10 g sugar or honey

100 ml liquid

Worms (optional)

You're going to need a couple of things from the outside world. One: some sand, from a beach, playground or hardware store. The second thing is what we call an inoculum, a small amount of already existing soil that you can dig up anywhere you see plants, trees or grass growing. You need that because that's going to introduce microbial and fungal life into your soil, the way a sourdough starter releases culture into dough. We're also gonna need some clay. If you don't have a place to dig up clay, bentonite clay from a health food store is your best bet. If you happen to be in Los Angeles, you can easily find it, people drink it in shakes. Other places, you might have to order it.

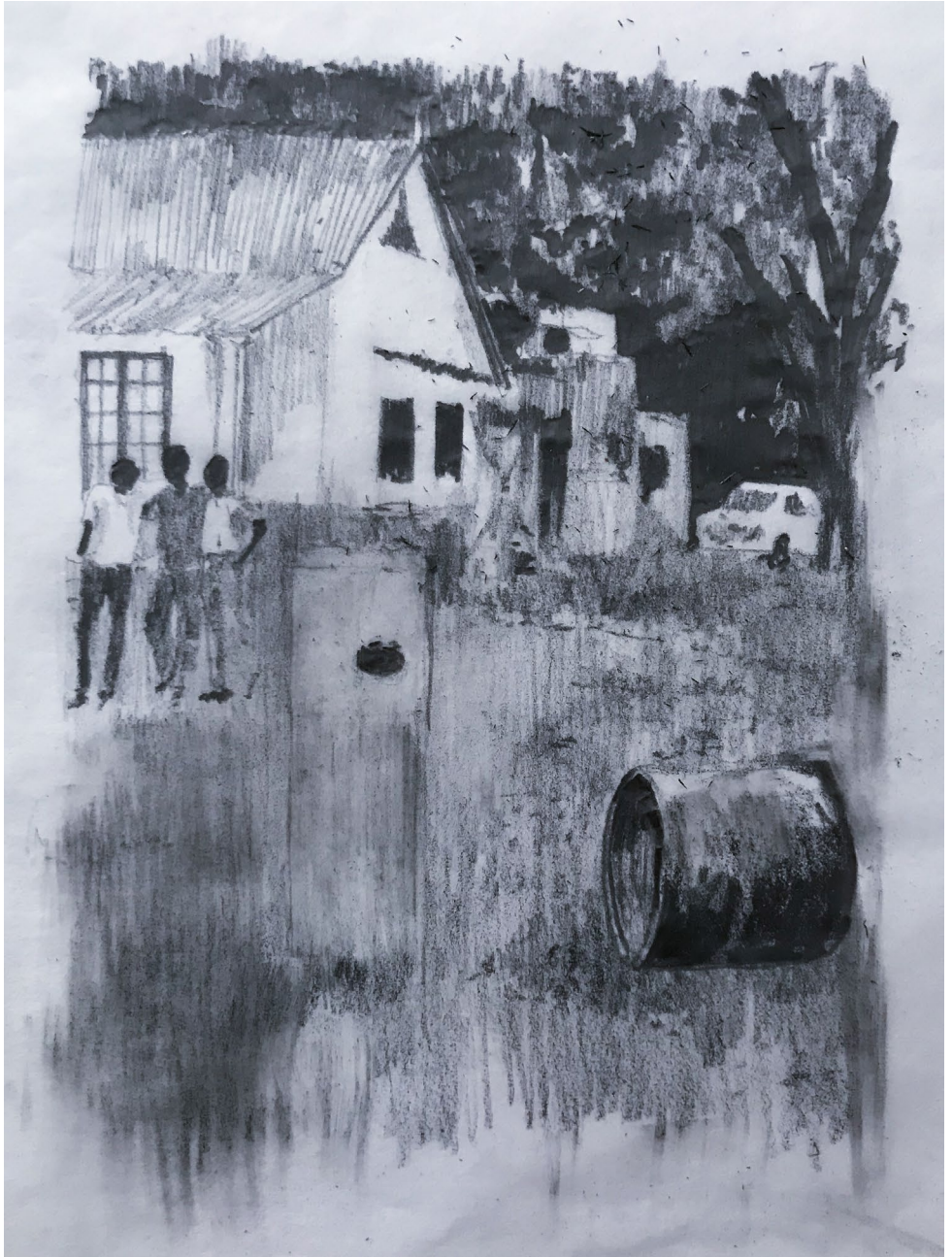
Mix the sand, clay and inoculum in a large bowl, tub or urn.

Blend your vegetable matter. For instance herbs, lettuces... make sure there's a bit of cooked lentil and sweet potato. Add the hair, snipped or ground finely. If it's yours, this adds your own DNA to the soil, too. Add the sugar or honey.

Now add the liquid (water, or any non-toxic waste liquid you have to hand, for example water used to boil rice, or urine).

Mix until all is amalgamated.

Now keep it from drying out or becoming wet and muddy, turn over to aerate every so often, and if you want, add some worms. In a month, you will have fecund homemade soil.



Thandi Loewenson, drawing from *A Taxonomy of Flight*, 2020



Ayesha Tan-Jones, *Parasites of Pangu: Act 1*, Mimosa House, London, December 2018

BIOGRAPHIES

ANDREW ADAMATZKY is Professor of Unconventional Computing and Director of the Unconventional Computing Laboratory, Department of Computer Science, University of the West of England, Bristol, UK. He does research in molecular computing, reaction-diffusion computing, collision-based computing, cellular automata, slime mould computing, massive parallel computation, applied mathematics, complexity, nature-inspired optimisation, collective intelligence and robotics, bionics, computational psychology, nonlinear science, novel hardware, and future and emergent computation. He authored seven books, including *Reaction-Diffusion Computing*, *Dynamics of Crow Minds*, *Physarum Machines*, and edited twenty-two books in computing, including *Collision Based Computing*, *Game of Life Cellular Automata*, *Memristor Networks*; he also produced a series of artworks published in the atlas *Silence of Slime Mould*. He is founding editor-in-chief of *J of Cellular Automata* and *J of Unconventional Computing*, and editor-in-chief of *J Parallel, Emergent, Distributed Systems* and *Parallel Processing Letters*. @andy_adamatzky

LYNNE BODDY is Professor of Fungal Ecology at Cardiff University UK. She has taught and researched into the ecology of fungi associated with trees and wood decomposition for 40

years. She is currently studying the fascinating communities of fungi and other organisms that rot the centres of old trees, the ash dieback fungus that is rampaging across the UK from Europe, the ways in which fungi fight each other and form communities, and how they search the forest floor for food resources and respond to their finds. She co-authored *Fungal Decomposition of Wood*, edited six books, has written over 200 scientific papers, and is chief editor of the journal *Fungal Ecology*. She was president of the British Mycological Society (2009–2010) and is an ardent communicator of the mysteries and importance of the amazing hidden Kingdom of Fungi to the general public including TV, radio, popular talks, videos, articles and exhibitions. She was awarded an MBE in the Queen's Birthday Honours list in 2019 for Services to Mycology and Science Outreach.

YAYA BONES writes protest music for witches, non-binary love songs and apocalyptic lullabies for the gestation phase of the nu-awakening. Taking influences from the unheard sounds of the weeds pushing through concrete and the crackling of embers in the hearth, they create a symbiosis of operatic siren calls and technological earth beats, mantras of poetics and epitaphs to the cuthulucene. YaYa Bones' meditational sounds are invoked for the ears of the ancestors past, the hearts of the ancestors in training, the queer warriors and all the plants we have been in our past lives.

ELIZABETH-JANE BURNETT is a writer and academic whose work has a largely environmental focus. Publications include: *Of Sea* (2021), *The Grassling, A Geological Memoir* (2019), *Swims* (2017) and *A Social Biography of Contemporary Innovative Poetry Communities: the Gift, the Wager and Poethics* (2017). She is currently researching moss and wetlands. @ejbpoetry

SEAN CHO A. is the author of *American Home* (Autumn House, 2021) which was the winner of the Autumn House Publishing chapbook contest. His work can be future-found in *Pleiades*, *The Massachusetts Review*, and *Ninth Letter*, among others. He is currently an MFA candidate at the University of California Irvine. @phlat_soda

THE COVEN INTELLIGENCE PROGRAM

(efrén cruz cortés, Margaretha Haughwout, Suzanne Husky, formerly APRIORI) is a technobotanical coven whose mission is to track and encourage emerging revolutionary ecologies of work between plants and machines. Their familiars suggest that this alliance has a history reaching back to at least the 1500s. They use our magick to try to understand more deeply the ‘nature’ of intelligence, and how the differences between communication and resource exchange are collapsing. The future of humanity is not at stake, but racist capitalist heteropatriarchy is. @suzannehusky @mlebuffalo

MARISOL DE LA CADENA was trained as an anthropologist and locates her work at several interfaces: those between Science-and-Technology Studies (STS) and non-STS, between major and minor politics (and what escapes both,) between history and the a-historical, and between world anthropologies and the anthropologies of worlds. In all these areas, her concern is the relationship between concepts and methods, and interfaces as analytical sites. Most specifically, de la Cadena is interested in ethnographic concepts – those that blur the distinction between what we call theory and the empirical, and can indicate the limits of both. Her current field sites are cattle ranches, peasant farms, slaughter houses, cattle fairs, breed-making genetic laboratories, and veterinary schools in Colombia. There she engages practices and relations between people, cows, plants, and things. Thinking at divergent bio/geo interfaces, de la Cadena is interested in “the stuff” that makes life and death in conditions of dramatic ecological and political change as the country endures extreme droughts and floods and wants to transition between the violence of war to a condition of unreachable peace that might not be without violence. Her most recent book is *Earth Beings. Ecologies of Practice Across Andean Worlds* (2015). @marisoldelacad1

JAMES FAIRHEAD is an environmental and medical anthropologist at the University of Sussex, where he has been Professor since 2000. Much of his field research has focused on how farming communities in Central and West Africa understand and harness ecological processes in soils, crops, and vegetation. His books *Misreading the African Landscape* and *Reframing Deforestation* and a suite of academic papers on topics ranging from soil enrichment to the manipulation of wasps and termites, to the prevention of crop diseases, consistently reveal the hidden logics and wisdom behind local agroecological thought and practices. These works not only provide correctives to external scientific orthodoxies but in doing so reveal also the coloniality at play in the conduct of tropical ecology.

ADHAM FARAMAWY is an artist based in London. Their work spans media including moving image, sculptural installation and print, engaging and using technology to discuss issues of materiality, touch, the mediation of images and (toxic) embodiment to question ideas of the natural in relation to marginalised communities.
[@adham_faramawy](#)

Originating in 2018 as a collaboration between a pair of audiophile friends and naturalists, **FUTURE ECOLOGIES** is a podcast about the many ways we relate to our living planet. Telling stories from the Salish Sea, across the Pacific Rim, and beyond, every episode weaves

together narrative, informative interviews, and science communication, supported by evocative soundscapes and music. Mendel Skulski is a designer and amateur mycologist. Adam Huggins is a musician and restorationist.

@futureecologies

ELAINE GAN's transdisciplinary practice combines methods from the arts, humanities, and social/natural sciences to engage more-than-human socialities. Through writing, drawing, media, and ethnography, Gan researches historical materialisms and temporal coordinations that emerge between organic, machinic, and cinematic assemblages. Gan teaches at New York University and leads the Multispecies Worldbuilding Lab, a podcast that raises critical awareness about climate change through interviews and sound compositions that listen for untranslatable voices of worlds otherwise. Gan is co-editor of *Arts of Living on a Damaged Planet: Ghosts and Monsters of the Anthropocene* (2017) and is presently writing about rice, realism and change. @elainemgan

TIM INGOLD is Professor Emeritus of Social Anthropology at the University of Aberdeen. He has carried out fieldwork among Saami and Finnish people in Lapland, and has written on environment, technology and social organisation in the circumpolar North, on animals in human society, and on human ecology and evolutionary theory. His more recent work

explores environmental perception and skilled practice. Ingold's current interests lie on the interface between anthropology, archaeology, art and architecture. His recent books include *The Perception of the Environment* (2000), *Lines* (2007), *Being Alive* (2011), *Making* (2013), *The Life of Lines* (2015), *Anthropology and/as Education* (2018), *Anthropology: Why it Matters* (2018) and *Correspondences* (2020).

KARRABING FILM COLLECTIVE is an Indigenous media group who use filmmaking to interrogate the conditions of inequality for Aboriginal people in the Northern Territory and retain connections to land and their ancestors. Composed of some thirty extended family members whose ancestral lands stretch across saltwaters and inlands and the Italian Alps, Karrabing together create films using an "improvisational realism" that opens a space beyond binaries of the fictional and the documentary, the past and the present. Meaning "low tide" in the Emmiyengal language, karrabing refers to a form of collectivity outside of government-imposed strictures of clanship or land ownership. Shot on handheld cameras and phones, most of Karrabing's films dramatise and satirise the daily scenarios and obstacles that collective members face in their various interactions with corporate and state entities. Composing webs of nonlinear narratives that touch on cultural memory, place and ancestry by freely jumping in time and place, Karrabing

exposes and intervenes into the longstanding facets of colonial violence that impact members directly, such as environmental devastation, land restrictions and economic exploitation.

ASIM KHAN is a poet.

SIMONE KOTVA is Postdoctoral Research Fellow at the Faculty of Theology, University of Oslo. She writes on the relationship between philosophy, religion and ecology, and has a special interest in magic and the occult. She is the author of *Effort and Grace: On the Spiritual Exercise of Philosophy* (London: Bloomsbury, 2020). She co-convenes the Magic and Ecology project and is currently working on her second book, *An Enquiry Concerning Nonhuman Understanding*.

@thisnonhumanity

DAISY LAFARGE is the author of *Life Without Air* (2020), a collection of poetry published by Granta Books and shortlisted for the T.S. Eliot Prize 2020. Lafarge's visual work has been exhibited in galleries such as Tate St Ives and Talbot Rice Gallery, and she is currently working on *Lovebug* – a book about infection and intimacy – for a practice-based PhD at the University of Glasgow. She has received an Eric Gregory Award for poetry, and a Betty Trask Award for a novel, *Paul*, forthcoming from Granta Books in 2021.

YASMEEN LARI is the first woman architect of Pakistan. After initial schooling at Queen Mary's, Adbistan-e-Soofia and Kinnaird College, Lahore, Pakistan, she graduated from Oxford School of Architecture (now Oxford Brookes University) in 1963 and was elected Member of Royal Institute of British Architects (RIBA) in 1969. As President of Institute of Architects Pakistan (IAP) and first chairperson of Pakistan Council of Architects and Town Planners, Lari was instrumental in bringing about recognition for the professions of architecture and town planning through PCATP Ordinance 1983. In 2006, in recognition of her services to the architectural profession and heritage conservation, she was awarded the Sitara-e-Imtiaz, one of the highest civil awards, by the Government of Pakistan. She established Lari Associates, Architects, Urban Designers in 1964 and took on the challenges as an architect dealing with issues in an industrially less developed country – from mud buildings, low income housing and improvements in spontaneous settlements to state of the art buildings. She retired from architectural practice in 2000 to devote full time to writing and heritage-related work. She is a member of Punjab Government Steering Committee for Lahore Fort and Shalamar Gardens, member of UNESCO Consultative Committee for Moenjodaro, Board Member of Earthquake Reconstruction and Rehabilitation Authority (ERRA) and Trustee of Transparency

International Pakistan. She is the author and co-author of several books including a publication on the historic Governor House, Lahore. @ylari

JESSICA J. LEE is an environmental historian and author of two books of nature writing: *Turning* (2017) and *Two Trees Make a Forest* (2019). She is the founding editor of *The Willowherb Review*. @jessicajlee

THANDI LOEWENSON is an architectural designer/researcher who operates through design, fiction and performance to interrogate our perceived and lived realms and to speculate on the possible worlds in our midst. Mobilising the 'weird' and the 'tender', she engages in projects which provoke questioning of the status-quo, whilst working with communities, policy makers, artists and architects towards acting on those provocations. Loewenson is a tutor at the Royal College of Art, London, a Visiting Professor at the Aarhus School of Architecture, a researcher with the Regional Network on Equity in Health in East and Southern Africa (EQUINET) and co-foundress of the architectural collective BREAK//LINE. @ThandiLoewenson

LONG LITT WOON is a writer and anthropologist and a Norwegian Mycological Association certified mushroom professional. She first visited Norway as a young exchange student, where she met and married Norwegian

Eiolf Olsen. She currently lives in Oslo, Norway. Her book *The Way Through the Woods: On Mushrooms and Mourning* (2019) tells of her journey to overcome grief through the encounter with nature. According to Chinese naming tradition, 'Long' is her surname and 'Litt Woon' her first name. @LongLittWoon

ALEX MCBRATNEY holds BSc, PhD and DSc degrees in soil science from the University of Aberdeen in Scotland, and the DScAgr degree from the University of Sydney for research in precision agriculture. He has made major contributions to soil science and agriculture through the development of the concepts of Pedometrics, Digital Soil Mapping and Precision Agriculture. After completing his PhD work at Rothamsted Experimental Station in the UK, McBratney spent seven years with CSIRO Division of Soils in Brisbane. He joined the University of Sydney in 1989. He is currently Director of the Sydney Institute of Agriculture and Professor of Soil Science and is Editor of the global soil science journal, *Geoderma*. McBratney is heavily involved with the activities of the International Union of Soil Sciences and the global digital soil map project, GlobalSoilMap. In 2014 he was awarded the VV Dokuchaev medal by the International Union of Soil Sciences, which is the highest honour in the soil science discipline. Currently he is helping to develop and promote the concepts of global soil security and digitally decommoditised agriculture.

ANGELICA PATTERSON is the Master Science Educator at Black Rock Forest. She received her B.S. degree in Natural Resources from Cornell University and her M.A. and M.Phil degrees from Columbia University, where she is currently completing her doctoral degree in plant ecophysiology. Patterson is a strong advocate for diversity, equity and inclusion in the environmental sciences and has served on various committee and working groups. She has served as a speaker at several US universities, environmental organisations and K-12 institutions, and has recently been profiled in *The Guardian*, *The Forestry Source*, and the National Environmental Education Foundation.
@ColorfulSciGirl

ELIZABETH A. POVINELLI is an anthropologist and filmmaker. She is Franz Boas Professor of Anthropology at Columbia University, New York; Corresponding Fellow of the Australian Academy for the Humanities; and one of the founding members of the Karrabing Film Collective. Recent publications include *Geontologies: A Requiem to Late Liberalism* (2016) and an upcoming graphic essay, *The Inheritance* (Duke University Press, 2020). @EPovine

MARIA PUIG DE LA BELLACASA works at the University of Warwick and is an AHRC Leadership Fellow. She authored *Matters of care. Speculative ethics in more than human worlds* (2017), connecting feminist critical thinking on care

with more than human ontologies. She currently researches transformations in ecological cultures through human-soil relations.

ASAD RAZA creates dialogues and rejects disciplinary boundaries in his work, which conceives of art as an active, metabolic experience. *Absorption*, in which artificial soil is made from waste and given away, was shown as the 34th Kaldor Public Art Project in Sydney in 2019, and at Gropius Bau, Berlin in 2020. In *Untitled (plot for dialogue)*, visitors played tennis in a sixteenth-century church in Milan, while in *Root sequence. Mother tongue*, caretakers grew a grove of trees in a museum. *Minor History*, a dialogue with his 91-year old uncle, premiered at the 2019 International Film Festival Rotterdam.

GILES ROUND is an artist who currently lives and works in London but may join the mass exodus from the city to the coast. Round works across disciplines – including art, design and architecture – through a wide range of techniques and approaches including ceramics, furniture, painting, print, sculpture and sound. Recent exhibitions include: *Untitled, circa 1994*, Brighton CCA, Brighton (2020); *The Director*, The Hepworth Wakefield, Yorkshire (2018); *Living with Buildings*, Wellcome Collection, London (2018); *1967, Goswell Road*, Paris (2018); *They bow. Curtain. No applause.*, Spike Island, Bristol (2017). Longterm open-ended projects include: *The Grantchester Pottery*, an artist-run decorative

arts company, 2011–; Design Work Leisure, a design office operating in London Underground, 2015–; The Queer Cinema & the Movies of Gus Van Sant Film Club, a collective research project and itinerant public programme, 2018–. Round is currently an artist in residence with General Ecology, in charge of the project’s art direction. @gilesround

MERLIN SHELDRAKE is a biologist and author of *Entangled Life: How Fungi Make Our Worlds, Change Our Minds, and Shape Our Futures* (2020). He received a Ph.D. in tropical ecology from Cambridge University for his work on underground fungal networks in tropical forests in Panama, where he was a predoctoral research fellow of the Smithsonian Tropical Research Institute. Merlin is a keen brewer and fermenter, and is fascinated by the relationships that arise between humans and more-than-human organisms. @MerlinSheldrake

AYESHA TAN JONES’ work is a spiritual practice that seeks to fuse activism and art to present an alternative, queer, optimistic dystopia. They work through ritual, meditating through craft, and building forms from their dreams. Tan Jones approaches activism through art, creating diverse, eco-conscious narratives that aim to connect, enthrall and induce audiences to think more sustainably and ethically. Traversing pop music, sculpture, alter-egos, digital image and video work, Tan Jones sanctifies these

mediums as tools in their craft. Tan Jones is the co-founder of Shadow Sistxrs Fight Club, a physical and meta-physical self defence class for women, non binary people and QTIPoC, combining Brazilian Jujitsu and magical/medicinal herbalism to create a holistic approach to self defence. Through community ritual and collective healing, the energy created at SSFC is powerful and creative. Fertile Souls is their community apothecary and survival skill share community which they founded. YaYa Bones is their musical alter ego. Selected recent commissions/exhibitions include: Shanghai Biennale (2021); Athens Biennale (2021); Serpentine Galleries, London (2019); IMT Gallery, London (2019); Mimosa House, London (2018), ICA, London (2018-2020); Cell Project Space, London (2018); Gropius Bau, Berlin (2018); Yorkshire Sculpture Park (2016-17).
@ayeshatanjones

LEENA VALKEAPÄÄ is an artist and researcher who lives in the wilderness in the northwest Lapland, near Kilpisjärvi. Valkeapää is working as a mentor in Ars Bioartica residence. She has exhibited as a visual artist since 1988 and has produced public environmental artworks, including the rock wall piece *Ice Veil* (1999) in Turku. Her doctoral dissertation *Luonnossa, vuoropuhelua Nils-Aslak Valkeapään tuotannon kanssa*, 2011 (*In the Nature, a dialog with Nils-Aslak Valkeapää's art*) proposed a dialogue with nature and its poets.
@LeenaValkeapaa

OULA A. VALKEAPÄÄ is working as a reindeer herder. He is interested in an engagement with the authenticity of a deeply individual experience with nature.

SUMAYYA VALLY is the Founder and Principal of the interdisciplinary research and architecture studio, Counterspace. Her design, research and pedagogical practice is committed to finding expression for hybrid identities and contested territories. She is in love with Johannesburg. It serves as her laboratory for finding speculative histories, futures, archaeologies and design languages; with the intent to reveal the invisible. Her work is often forensic, and draws on performance, the supernatural, the wayward and the overlooked as generative places of history and work. Vally is presently based between Johannesburg and London as the lead designer for the Serpentine Pavilion 2020/20 Plus 1. @_counterspace

THE WILLOWHERB REVIEW aims to provide a digital platform to celebrate and bolster nature writing by emerging and established writers of colour. Why 'Willowherb'? *Chamaenerion angustifolium*, commonly known as rosebay willowherb or fireweed, is a plant that thrives on disturbed ground. Its seeds do well when transported to new and difficult terrain, so some – not us – may call it a weed. @WillowherbRvw

JAY G YING is a writer and MFA student at Brown University. His debut poetry pamphlet *Wedding Beasts* was shortlisted for the Saltire-Calum MacDonald Memorial Award, and his second pamphlet *Katabasis* is a winner of the 2019 New Poets Prize. He is an editor for *The White Review* and *Asymptote*. @JayGYing



Future Ecologies, Scorched earth at Francois Lake Southside

THE SHAPE OF A CIRCLE
IN THE MIND OF A FISH:
THE UNDERSTORY OF
THE UNDERSTORY

5 & 6 December 2020
Online at themind.fish
Part of the General Ecology Project

Curated by

Lucia Pietroiusti, Curator, General Ecology, Serpentine Galleries
Filipa Ramos, writer, animal whisperer
with Kostas Stasinopoulos, Assistant Curator, Live Programmes,
Serpentine Galleries

Produced by

Holly Shuttleworth, Producer, Serpentine Galleries

Visual identity and programme design

Giles Round

Programme editor

Kostas Stasinopoulos

Web design

Shaun McCallum

Streaming

Lori E. Allen

Film and video production

Jesse Watt, Pundersons Gardens

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Leah Clements

BSL

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Subtitling

Simon Tegala

Respondents

Aadita Chaudhury, DJ Freedom, Eva Jäger, Brandon Keim,
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Ben Vickers, Kay Watson, Duncan Welsh, David Wimhurst,
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Adham Faramawy
The air is subtle, various and sweet, 2020, video, 35'

Dedicated to Saeed Faramawy
Performers: Tylor Deyn and Joseph Funnell
Salamtek ya Masr performed by Emad El Rashidy and Elhamy
Production Assistant: Alyah Nurya Bint Ahmad Hattla
Translation and research: Basma Faramawy
Special thanks to Maaly Elghamry, Ahmad Fouad
Commissioned by Serpentine Galleries
Supported by Near Now, Broadway and Arts Council England

Asad Raza
Ge, 2020, 4k digital video, 24-bit sound, audio description,
subtitles, 10'29"

Producers: Holly Shuttleworth, Olivia Fairweather
Dorset cinematography: Will Hazell
Berlin cinematography: Marianna Simnett
Sound designer: Ruth Knight
Sound recordist: Ben Gandy
Colour: Sergej Jurisdizkij
Camera assistant: Simone Picknett
Assistant editor: Anja Zhukova

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Mathias Zeiske

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THE UNDERSTORY OF THE UNDERSTORY IN COLLABORATION WITH



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