



Logics of Sense 1: Investigations

Ursula Biemann, Mikhail Karikis,
Susan Schuppli, Jol Thomson

September 4–October 19, 2019
Blackwood Gallery

Curated by Christine Shaw

Although the worlds we inhabit are invariably composed of sensations and sense-makings, it is a peculiar challenge to perceive ourselves *sensing*. Because our human-centred sensory habits are so difficult to discern, we can often mistake them for natural tendencies. As an attunement to the aesthetics of sensation, the exhibition *Logics of Sense*—presented in two parts at the Blackwood Gallery, University of Toronto Mississauga—examines sense-in-the-making, from the surface of incorporeal events to a multiplicity of decentralized perceptions, and from itinerant geo-methodologies to the various disciplinary frames and frameworks that artistic intelligence retrofits for emergent social and political realities.

Logics of Sense 1: Investigations includes works from Ursula Biemann, Mikhail Karikis, Susan Schuppli, and Jol Thomson; their respective videos and video essays address the interactions between land and the atmosphere, changing planetary dynamics, terrestrial micro-events, and the inheritance of knowledge. Moving through modes of prediction, observation, expression, perception, and reconfiguration, visitors are invited to explore the *becoming-sensuous* of technoscience in formation.



Logics of Sense 1: Investigations

Although the worlds we inhabit are invariably composed of sensations and sense-makings, it is a peculiar challenge to perceive ourselves *sensing*. Because our human-centred sensory habits are so difficult to discern, we can often mistake them for natural tendencies; fortunately, interruptions that undo our all-too-naturalized inclinations often arrive unexpectedly to insist that we reevaluate and reframe our regimes of sense. In *His Master's Voice*, one of the most inimitable science fiction novels in an astonishing body of work by the Polish writer and philosopher Stanisław Lem, the narrator relays his experience as a mathematician in the top-secret His Master's Voice Project, which has as its Pentagon-directed objective the task of deciphering a message hidden in an unusual neutrino signal from outer space. The narrator remarks, early in his sardonic account of the Project: "I began to suspect that the 'letter from the stars' was, for us who attempted to decipher it, a kind of psychological association test, a particularly complex Rorschach test."¹ How then to make sense of a message that offers no attendant sense of purpose, intention, or complexity? By what logic can sense be made of such alien signals?

As the narrator's colleagues naively attempt to decode the "alphabet" of the message—without any index or reference with which to do so—the obvious limitation of their approach unfolds: "It is impossible to commence anything without first making assumptions, and our awareness of this fact in no way diminishes reality. Those assumptions inhere in the very biology of man, and in the amalgam of civilization which serves as the interface between the organisms and the environment; and this amalgam is permitted because the actions that must be taken in order to survive are not rendered unequivocal by the environment. The environment, rather, leaves the organisms

a chink for freedom of choice, a chink spacious enough to include thousands of possible cultures."²

The practical need to decipher the meaning and value of sensation becomes a way for both survival and, eventually, social flourishing, but it also connects the terrestrial and cosmic. In this sense, whether examining a "letter from the stars" or the earthly "book of nature," any considered reading will still depend on assumptions, incomplete knowledge, and technologies of interpretation and thus, of abstraction. For Lem, it is fair to say this techno-social desire to make sense is, for *Homo sapiens*, inexorable. Yet, in the words of his narrator, "somehow it has not occurred to any of our philosophers that to deduce, from the pattern of one's own thoughts, laws that hold for the full set of people, from the eolithic until the day the sun burns out, might be, to put it mildly, imprudent."³ How might we avoid this imprudence while, simultaneously, giving an account of the now fully globalized integration of knowledge infrastructure?

In his comprehensive study of the connective apparatus that allows human beings to understand dynamics of global climate, historian of science Paul Edwards offers an unparalleled approach to the sensuous apprehension of planetary forces in *A Vast Machine*.⁴ While belief in the science of climate change has become a matter of political affiliation and party ideology, for Edwards, the challenge is to render this science comprehensible and meaningful, and thus to extend belief in when, how, and why humans have come to sense the climate as such. The climate is not a timeless object of scientific inquiry, far from it; indeed, the meaning of *climate* in the nineteenth century varied considerably, as Deborah Coen has demonstrated in her most recent book, *Climate in Motion*. For Coen, the im-

perialist ambitions of the Habsburg Empire drove the scientific research that would eventually become climate science: "there is an uncomfortably intimate relationship between the growth of environmental knowledge and the environmental destruction wrought by imperialism."⁵ Yet, as Coen observes, it was the first emperor of Austria, Francis I, who was reputed for his sensitivity to scale and context: "there is no affair that a *priori* and according to general principles could be called large or small; matters are only large and or small in comparison to and in relation to other things."⁶ Against the legacy of imperialism, how can we reimagine movements of descaling and reinvent our sensing of planetary forces?⁷

The philosopher of science Gaston Bachelard suggests a compelling approach to the interface of sensation in his remarkable essay "Imagination and Matter," wherein he sets out the problem of imagination as follows:

The imagining powers of our mind develop around two very different axes. Some get their impetus from novelty; they take pleasure in the picturesque, the varied, and the unexpected . . . Others plumb the depths of being. They seek to find there both the primitive and the eternal. They prevail over season and history. In nature, within us and without, they produce seeds—seeds whose form is embedded in a substance, whose form is internal . . . [W]e can distinguish two sorts of imagination: one that gives life to the formal cause and one that gives life to the material cause—or, more succinctly, a *formal imagination* and a *material imagination*.⁸

Bachelard, anticipating many debates that would follow from his work and be taken up by his students and successors (includ-

ing, among others, Louis Althusser, Michel Foucault, Jacques Derrida and Pierre Bourdieu), herein provides a clue to thinking with sensation: what else could supply the interaction or interface between these two axes—namely, the *material* and *formal*—other than a *becoming-sensuous* of thought that can follow one supple line toward a granular and infinitesimal micro-materiality while also following an abstract line in pursuit of virtual qualities, capacities, and tendencies?⁹

As a re-attunement to the aesthetics of sensation, the two-part exhibition *Logics of Sense* examines sense-in-the-making, from the surface of incorporeal events to a multiplicity of decentralized perceptions, and from itinerant geo-methodologies to the various disciplinary frames and frameworks that artistic intelligence retrofits for emergent social and political realities. *Logics of Sense 1: Investigations* includes works from Ursula Biemann, Mikhail Karikis, Susan Schuppli, and Jol Thomson; their respective videos and video essays address the interactions between land and the atmosphere, changing planetary dynamics, terrestrial micro-events and the inheritance of knowledge. Moving through modes of prediction, observation, expression, perception, and reconfiguration, visitors are invited to explore the *becoming-sensuous* of technoscience in formation.¹⁰

Attending to the ways in which sense-making unfolds across these scales and sites is a critical step in the composition of equitable and pleasurable worlds. Because, in the words of Sylvère Lotringer, "knowledge has reasons unknown to reason itself,"¹¹ it is necessary to follow these logics of sense to decipher the terrestrial and cosmic signals they relay, thereby renewing and re-activating a sensuous and material semiotics. This itinerant and recombinatory experiment with sensation thereby affords a poly-

perspectival relation to both everyday experience and the eventualities that punctuate quotidian rhythms with their interruptions from elsewhere.

In one of Friedrich Nietzsche’s most striking books, *Daybreak*—which signalled his own definitive break with all forms of scientific positivism—he announced: “we have to learn to think differently in order, at last, perhaps very late on, to attain something even more: to feel differently.”¹² With a sim-

ilar concern, Jol Thompson has more recently remarked: “the artist has allowed himself to dream with and into the coldest space in the universe ...”¹³ However cold and distant, these spaces and their forces—as foreign and faint as they may sometimes be—also participate in the sense-making of worlds, including our own Earth. It is with a lithe and joyful artistic intelligence that we can begin to attune to both micro- and macro-phenomenal constituencies with which we sense, and share, this universe.

1 Stanisław Lem, *His Master’s Voice*, trans. Michael Kandel (Krakow: Pro Auctor Wojciech Zemek, 2018), 38. For those unfamiliar with Lem’s unrelenting *oeuvre*, we hereby recommend, by way of an introduction—in addition to this novel—his magisterial *Summa Technologiae*, recently translated to English by Joanna Zylińska; see Stanisław Lem, *Summa Technologiae*, trans. Joanna Zylińska (Minneapolis: University of Minnesota Press, 2013).

2 Lem, 93.

3 Lem, 36.

4 Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge: MIT Press, 2010).

5 Deborah R. Coen, *Climate in Motion: Science, Empire, and the Problem of Scale* (Chicago: University of Chicago Press, 2018), 16.

6 Coen, 16.

7 William E. Connolly, *Facing the Planetary: Entangled Humanism and the Politics of Swarming* (Durham: Duke University Press, 2017).

8 Gaston Bachelard, *Water and Dreams: An Essay on the Imagination of Matter*, trans. Edith R. Ferrell (Ann Arbor: Braun-Brumfield Inc., 1983), 1.

9 Manuel DeLanda, *Philosophy and Simulation: The Emergence of Synthetic Philosophy* (London: Bloomsbury, 2011).

10 On the technical capture of the sensations of the planet, see Jennifer Gabrys, *Program Earth: Environmental Sensing Technology and the Making of a Computational Planet* (Minneapolis: University of Minnesota Press, 2016).

11 Sylvère Lotringer, *The Miserables*, trans. Ames Hodges (Los Angeles: Semiotext(e), 2014), 23.

12 Friedrich Nietzsche, *Daybreak: Thoughts on the Prejudices of Morality*, trans. R.J. Hollingdale, eds. Maudemarie Clark and Brian Leiter (Cambridge: Cambridge University Press, 1997), 60.

13 Jol Thompson, G24|0v88.

Ursula Biemann

Acoustic Ocean, 2018

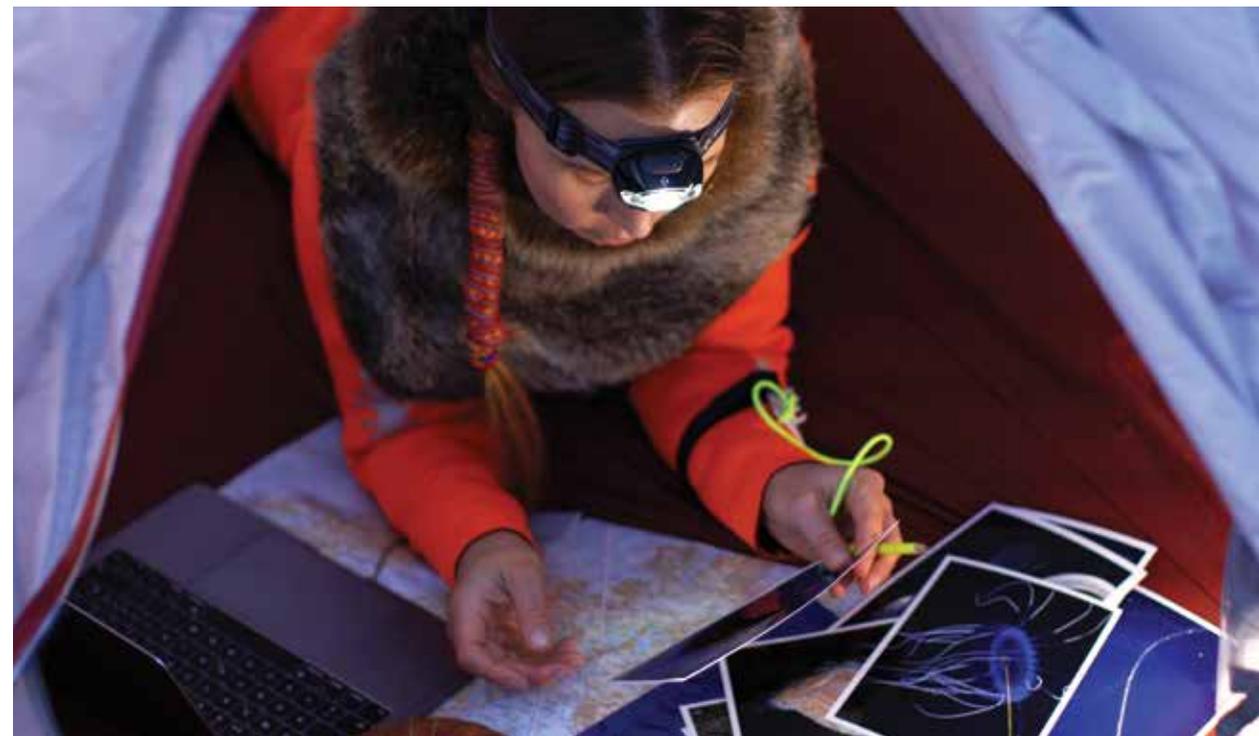
HD video with stereo sound, 18:50 min.

Ursula Biemann's *Acoustic Ocean* combines scientific, personal, and phenomenological narratives in an exploration of oceanic depths and interspecies relations above and below the waterline of the Lofoten Islands in Northern Norway. A piece of science-fiction poetry, this film intertwines new technological research with inherited knowledge, and the sounds of the submarine.

For the great majority of underwater beings, bioluminescent and sonic manifestations are the primary means of communication, navigation, and survival in this penumbral liquid universe due to poor visibility in the deep sea. The multitude of creatures that dwell here range from microscopic forms with transparent bodies and luminous organs, glowing wing-like fins and whiskers, to gargantuan mammals that speak in echoes and rise for air every hour. The female aquanaut and human protagonist of *Acoustic Ocean* therefore places sensing instruments such as hydrophones and parabolic microphones along the shore in order to detect, and connect with, the visual and acoustic forms of expression exchanged between these diverse organisms.

The watery world holds memories of evolution that span various different timescales and swirl with the possibility of dissolution, as beings with porous bodies vulnerable to the increasing acidification of their habitat, exist in a temporality whose future is unknown. The narrative takes on a personal dimension when the aquanaut, performed by singer and environmental activist Sofia Jannok, recounts the uneven effects of a shifting climate on the Indigenous Sami community of which she is part, and the reindeer on which their economic and cultural sovereignty rely.

Depicting a post-human figure inextricably linked to her research subject, *Acoustic Ocean* provides a central example by which to develop a more intuitive and less anthropocentric understanding of ecological interdependency. This feminist posthuman figuration suggests a porosity, permeability, and connectivity of the human body with regards to water and the many life forms it sustains and ingests.





Mikhail Karikis

No Ordinary Protest, 2018

HD video with stereo sound, 7:44 min.

Working across film, sound, and performance, Mikhail Karikis's project adopts Ted Hughes's children's science fiction novel *The Iron Woman* (1993) as an ecofeminist parable in which communal listening and noise-making become tools to transform the world. In this story, a female superhero gifts children with a mysterious power—a noise. Transmitted by touch, this noise resonates with the collective howl of creatures affected by the pollution of the planet. As the children take matters into their own hands, they infiltrate factories and “infect” adults with their demand for immediate action.

For *No Ordinary Protest*, Karikis engaged with a group of 7-year-olds from a London primary school throughout their academic year. Through workshops, experimental pedagogical methods, reading, debating, and play, they created a film together which reflects on the environmental themes of the book and imagines the enigmatic noise that assists the protagonists in their protest. Improvising with their voices, on musical instruments and toys, the children conduct cy-matic experiments whereby a noise or vocal utterance takes on unique visual forms resembling ever-changing landscapes – the results echo the power of communal noise-making to mobilise change through sound.

The children gather to debate and they discover a shared sense of justice and responsibility towards the environment, and the urgent need for solidarity with all creatures. The video concludes with the children's transformation into playful yet monstrous masked agitators confronting the viewer. While being uncertain about our ecological future, *No Ordinary Protest* uncovers children's political voice and activist imagination, where communal listening and noise-making become tools that can “move mountains” and transform our world.

'Listen – listen –' The rumbling voice almost cracked into a kind of yell.

[. . .]

'Oh, what was it?' cried Lucy.

[. . .]

'What you heard,' said the voice, 'is what I am hearing all the time.'

'But what is it?' cried Lucy again.

'That,' said the voice, 'is the cry of the marsh. It is the cry of the insects, the leeches, the worms, the shrimps, the water skeeters, the beetles, the bream, the perch, the carp, the pike, the eels.'

'They're crying,' whispered Lucy.

'The cry of the ditches and the ponds,' the voice went on. 'Of the frogs, the toads, the newts. The cry of the rivers and the lakes. Of all the creatures under water, on top of the water, and all that go between. The water birds, the water voles, the water shrews, the otters. Did you hear that they were crying?'

'What's happening?' she cried.

— excerpts from John Hughes,
The Iron Woman





Susan Schuppli

Atmospheric Feedback Loops, 2017

35mm vertical film transferred to HD video, stereo sound, 17:50 min.

In a rural landscape approximately an hour due south of Amsterdam, an open-air laboratory is tuning into the atmospheric frequencies of nature: separating the signal of climate change from the noise of cyclical variability. Since 1970, the Cabauw Experimental Site for Atmospheric Research has been measuring and monitoring the changes taking place in the feedback loops between land surface processes and the airborne dynamics of our planet. It studies the ways in which the complex behaviour of clouds, aerosols, radiation, precipitation, and turbulence interact with terrestrial events.

Climate change and weather systems have become spatial objects that can be measured and modelled, and even controlled and “forced”. During the 1950s the Soviet Union actually experimented with accelerating glacial melt (climate forcing) by deliberately blackening snow surfaces with coal dust to boost their capacity to absorb solar radiation and thus aid in irrigation and supplement water supplies to areas affected by drought. The meteorological variables that characterize climate systems such as temperature, humidity, wind, and precipitation are similarly shared by weather. While “climate” refers to the ways in which these variables interact over extended periods, “weather” charts changing atmospheric phenomena over days and even hours, thus the predictive move towards “nowcasting”. From the long-term tracking of atmospheric conditions to the day-to-day monitoring of weather systems that can be used to forecast incoming storms, the governance of these temporally complex spatial objects has increasingly been organised around the control of atmospheric uncertainty.

Atmospheric Feedback Loops investigates how certain mathematical models of weath-

er prediction and the computation of long-term climate change became effective through the transformation of the observatory into a large networked system of ground stations, mainframe computers, satellites, instruments and sensors. In short, they generate feedback loops between atmospheric phenomena, terrestrial processes, and technical infrastructures. Its primary objective is not only to open up the techno-scientific black-box of climate science and weather prediction to humanities scholars and artists, but also to envision what a cultural approach to uncertainty expressed by and through the calculation of climate change might be.





Jol Thomson

G24|0νββ, 2016

HD video with stereo sound, 24 min.

Please note: this video contains stroboscopic lighting for 50 seconds. This effect appears in the video following EPOCH5115: 'A Surfaceless Cosmos.'

G24|0νββ is an audiovisual composition investigating new forms of relation, degrees of sensitivity, and modes of observation achieved through highly unusual means: engaging the intangible and entangled worlds announced through technologies in neutrino physics. The project grapples with the challenges and aesthetic adventures unfurled through these technologies and their collaborative relationships with non-human beings, matter, and ecologies. Jol Thomson has developed a novel aesthetic for diffracting the entangled site of the Cryogenic Underground Observatory for Rare Events (CUORE) at the National Laboratory of Gran Sasso (LNGS) in Italy where physicists from several countries are searching for a theoretical process known as double beta decay without neutrino emissions, or 0ν .

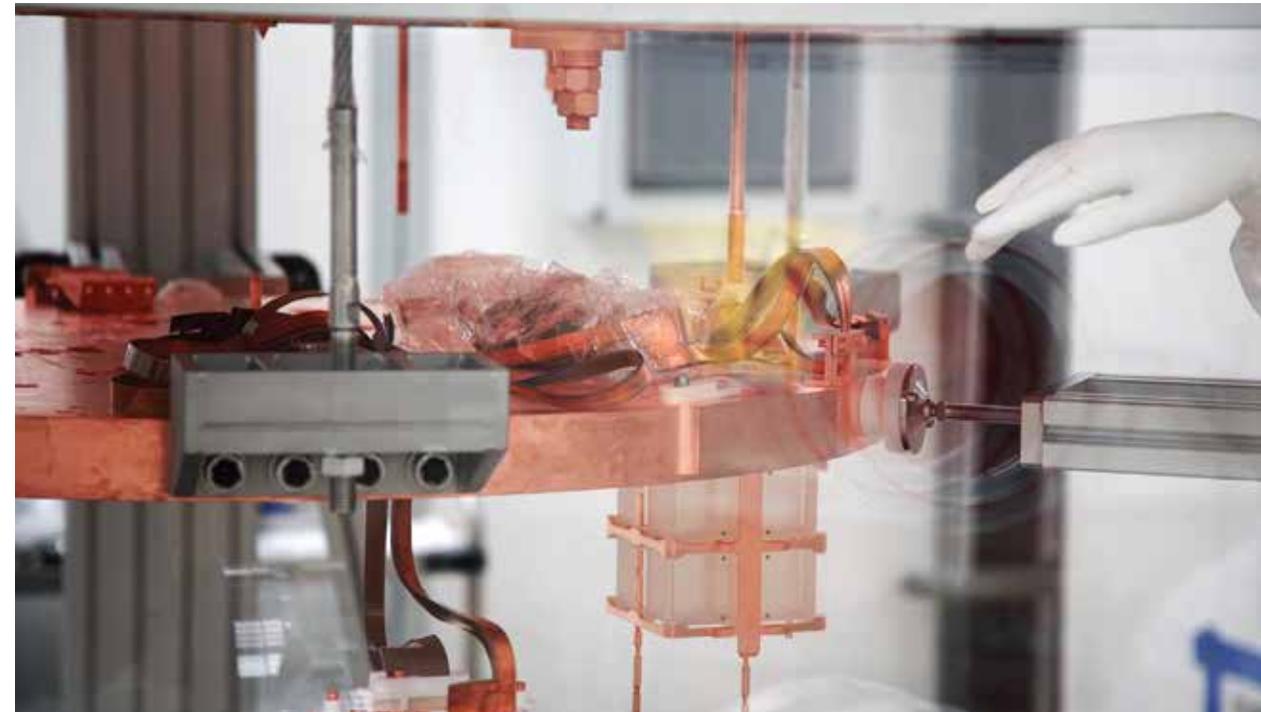
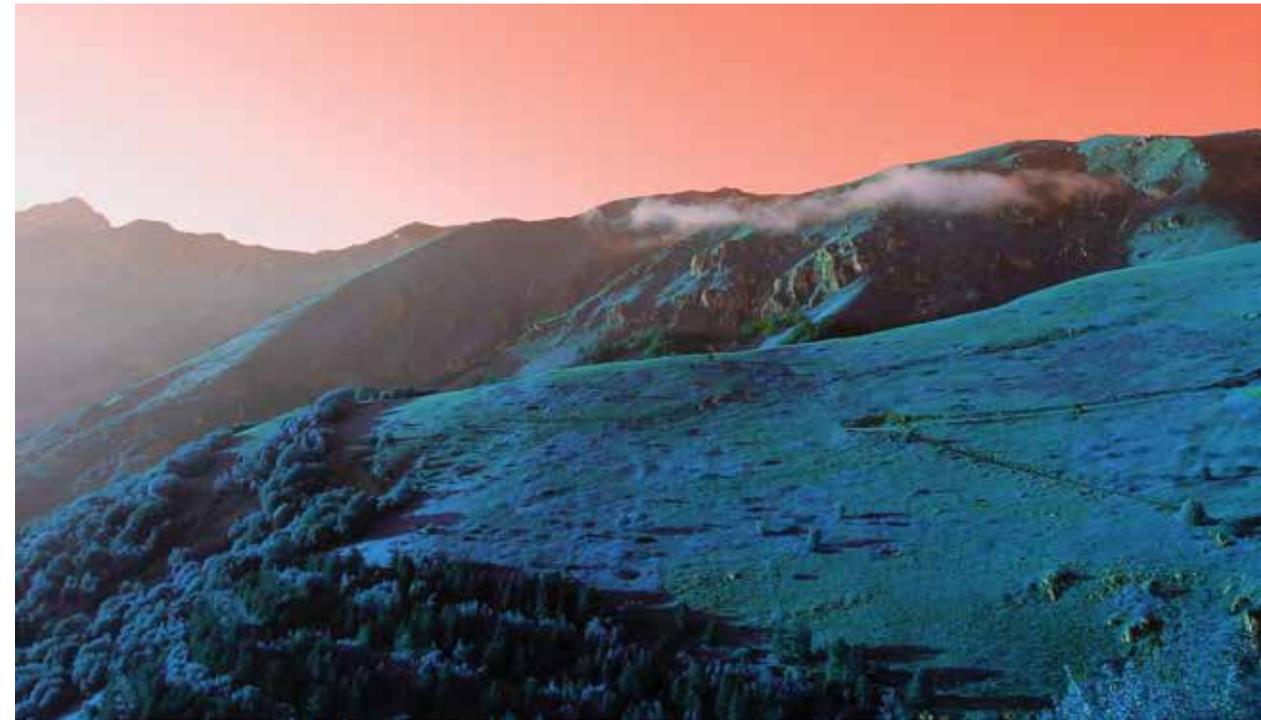
Filming this work entirely in and around CUORE, the artist allowed himself to dream into the coldest piece of matter in the universe, resulting in a composition that navigates the indistinguishable boundary between technology and nature, and between our immediate environment and the cosmos at large.

The neutrino, an imperceptible, neutral subatomic particle with a mass close to zero, rarely reacts with normal matter. Their inherent neutrality has led to neutrinos—millions of which are penetrating our bodies and the world around us at any given moment—being referred to as “cosmic messengers,” given that the particles enter our environment from the farthest reaches of outer space in an unaltered state.

Crucially, the Gran Sasso Mountain is itself essential to the CUORE experiment, pro-

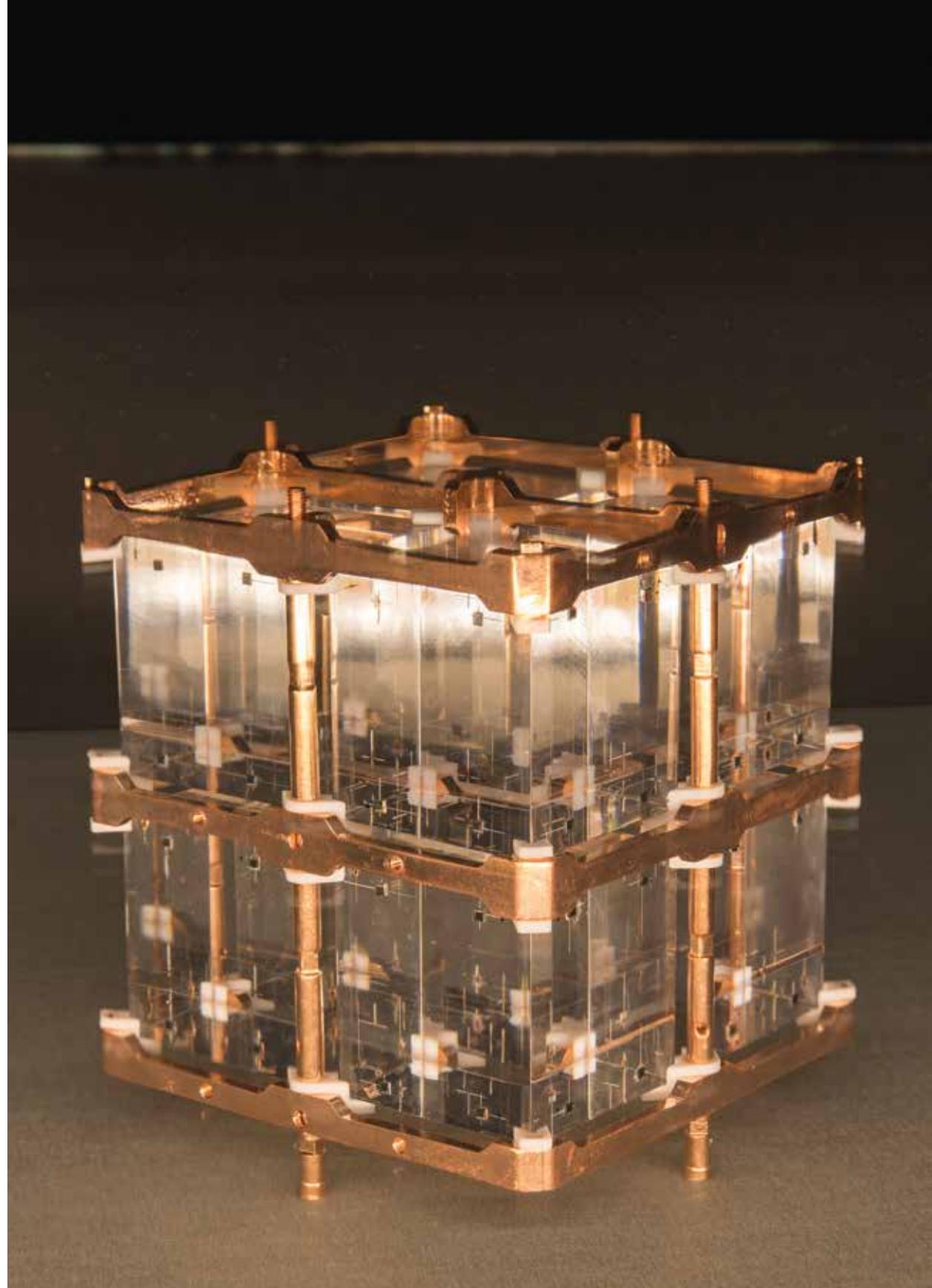
tecting the cryostat from the abundant high energy particles in our atmosphere: the mountain has become indistinguishable from technology—and technology inseparable from mountain.

A montage of psychedelic video sequences, punctuated with quotes from Stanisław Lem's science fiction novel *His Master's Voice* (1968), *G24|0νββ* documents the flora and fauna of the mountain as well as the human interventions that have transformed it into one of the most sophisticated pieces of technology on the planet



Tellurium dioxide crystals arranged like these are both the source material and the detectors for the CUORE experiment at the LNGS. The cubic metre of crystals arrayed in CUORE have reached the coldest temperature in the entire universe: -459 degrees Fahrenheit (or 10 milli-Kelvin: 0.0006 from Absolute Zero).

Currently beneath a mountain in Italy, searching for faint signals beneath the thermal relic radiation of our universe, the Tellurium may actually be the object that has travelled furthest in the cosmos—beyond the Cosmic Microwave Background which permeates every observable space—and all by way of temperature. For the next five years, the Tellurium sculpture will communicate to scientists from beyond the thermal horizon; from outside of “nature”, human sense, and thought.





This lead was retrieved in the late 20th century from a ship that was sunk off the coast of Oristano, Italy in 50 B.C.E. Archeological lead 'Ingots' such as these are used in the 'low background' experiments at the LNGS.

The use of this ancient mineral within the contemporary experimental assemblages at the LNGS is due to its rare, uncontaminated radioactive silence, which helps to guard the delicate crystal-hearted experiment from the thick omniscient noise of our universe.

Within a series of six concentric metallic shields, this ancient lead is re-cast to become the innermost layer, quietly protecting the intensely chilled Tellurium dioxide crystals from the hyperchaos of the cosmos.

Biographies

Ursula Biemann is an artist, author, and video essayist based in Zurich, Switzerland. Her artistic practice is strongly research-oriented and involves fieldwork in remote locations where she investigates climate change and the ecologies of oil and water, as in the recent projects *Acoustic Ocean* (2018), *Forest Law* (2014), *Deep Weather* (2013), and *Egyptian Chemistry* (2012). In her earlier art and curatorial work she made space and mobility her prime category of analysis, for example in the widely exhibited art and research project *Sahara Chronicle* (2006-2009) on clandestine migration networks. Her video installations are exhibited worldwide in museums and the International Art Biennials of Liverpool, Sharjah, Shanghai, São Paulo, Sevilla, Istanbul, and Venice. Biemann has published several books and is founding member of the collaborative art and media project World of Matter. Biemann has a BFA from the School of Visual Arts and attended the Whitney Independent Study Program in New York (1988). She received a doctor honoris causa in Humanities by the Swedish University Umea and the Prix Meret Oppenheim, the Swiss Grand Award for Art, and the Prix Thun for Art and Ethics.

Mikhail Karikis is a Greek-British artist living in London. His work embraces film, sound, performance, and photography. He employs listening as a form of activism and develops projects with communities located outside the context of contemporary art who may be pushed into economic and socio-geographic fringes. In recent years, Karikis has been collaborating with teenagers and children to explore legacies they inherit from older generations, including narratives of techno-dystopias, and ecological and economic injustice. While prompting participatory and activist imaginaries, Karikis's projects rouse the potential for people to imagine alternative futures of self-determination and potency. Karikis has

exhibited at 54th Venice Biennale, 2011; Manifesta 9, 2012; 2nd Aichi Triennale, 2013; 19th Biennale of Sydney, 2014; Kochi-Muziris Biennale, 2016; Yebisu International Festival, Tokyo Photographic Art Museum, 2019. He has recently had solo exhibitions at Whitechapel Gallery, London, (2018-2019); MORI Art Museum, Tokyo, (2019); Fondazione Sandretto Re Rebaudengo, Torino, (2019); Turku Art Museum, (2018); Aarhus 2017 European Capital of Culture, (2017) and Casino Luxembourg Forum d'art contemporain, (2017). Forthcoming solo exhibitions include his survey exhibition at Middlesbrough Institute of Modern Art (MIMA); *I Hear You*, De la Warr Pavilion; and an *In Focus* exhibition at TATE, St Ives.

Jesse Purcell is a socially engaged artist and printmaker based in Toronto. He is a member of the Justseeds Artists' Cooperative, and founder of Repetitive Press - Screen Printing and Design Studio, which focuses on providing hand-made graphic materials for cultural producers while working to support social movements.

Susan Schuppli is an artist and researcher whose work examines material evidence from war and conflict to environmental disasters. Creative projects have been exhibited throughout Europe, Asia, Canada, and the US. Recent commissioned works include *Learning from Ice*, Toronto Biennial; *Nature Represents Itself*, SculptureCenter; *Delay Decay*, Garage Museum of Contemporary Art, Moscow; *Trace Evidence*, Extra City, Antwerp & Bildmuseet, Umea; and *Atmospheric Feedback Loops*, a Vertical Cinema project for Sonic Acts, Amsterdam. She has published widely within the context of media and politics and received the ICP Infinity Award for Critical Writing and Research in 2016. Her book, *MATERIAL WITNESS: Media • Forensics • Evidence*, published by MIT Press will be released in 2020. Schuppli is Director of

the Centre for Research Architecture, Goldsmiths University of London and is an affiliated artist-researcher as well as board chair of Forensic Architecture.

Jol Thomson is an artist, sound designer, and researcher interested in the potential to bypass dominant Western rationality through critical engagements with the matter(s) and meanings of contemporary (particle) physics. Thomson completed his HBA at the University of Toronto in 2009 and received his *meisterschüler* in Fine Art from Professor Simon Starling at the Städelschule, Frankfurt aM in 2013. He was recently awarded an international studentship to pursue a practice-based PhD at the University of Westminster in London, where he is currently based. Between 2014-2016 he developed and taught an experimental interdisciplinary arts pedagogy for architects with artist Tomás Saraceno at the Technical University of Braunschweig in Germany. In 2016 he won the *MERU Art*Science Award* for his audio-visual composition *G24|0vßß*. That year he was a fellow of the *Akademie Schloss Solitude* and in 2017 he was a resident of the Bosch GmbH's *Centre for Research and Advanced Engineering*, Stuttgart. Recent screenings and selected exhibitions include *Recontres Internationales: Contemporary Moving Image*, Pompidou, Paris and HKW, Berlin (2019); at *Quantum Real: Spectral Exchange*, Exhibition Research Lab, Liverpool (2019); Galleria d'Arte Moderna e Contemporanea, Bergamo (2019); *Blind Faith: Between the Cognitive and the Visceral in Contemporary Art* at the Haus Der Kunst, Munich (2018); *Open Codes: Living in Digital Worlds*, ZKM (Center for Art and Technology), Karlsruhe (2017-2018). In 2017 he published *Intra-acting With the IceCube Neutrino Observatory; or, how the technosphere may come to matter*, with Dr. Sasha Engelman in a special issue of the *Anthropocene Review*.

Mary Tremonte is an artist, educator, and DJ based in Pittsburgh, PA with a piece of her heart in Toronto. She is a member of Justseeds Artists' Cooperative. As DJ Mary Mack she strives to make safe(r) spaces on dance floors for embodying a body politic with pleasure. With Justseeds and independently Mary has exhibited throughout North America and internationally. Formerly youth programs coordinator at The Andy Warhol Museum, Mary values art education as a means of youth empowerment and social change. Mary was recently an artist in residence at Literacy Pittsburgh through the Pittsburgh Office of Public Art's Residency in the Public Realm, an initiative to build connections for refugees and immigrants in Pittsburgh through collaborative creative projects, and is currently working with Grow Pittsburgh on OPA's Art, Public Health, and the Environment initiative.

Programs

Global Climate Strike September 20-27

Logics of Sense 1: Investigations is presented within the context of the Global Climate Strike, where millions of people around the world will walk out of their workplaces and homes to join young climate strikers on the streets and demand an end to the age of fossil fuels. The Blackwood's exhibition forms one part of the University of Toronto Mississauga's active participation in the strike throughout the month of September through a series of events and by offering relevant resources to the community.

Banner Making Workshops with Justseeds

Monday September 16–Thursday
September 19, 10am–5pm
Friday September 20, 10am–12pm
Outdoors at CCT Main Entrance,
University of Toronto Mississauga

In advance of the Global Climate Strike walkout on September 20, join facilitators from the Justseeds Artists' Cooperative to create banners, placards, and posters in support of climate justice. Sharing techniques from the long-standing tradition of artmaking for protest movements, guest artists Mary Tremonte and Jesse Purcell will share strategies for slogan-writing, screen-printing, hand-painting, and iron-on adhesives in daily workshops and drop-in arts builds. The collection of signs and banners co-produced throughout the week will be made available to participants in the September 20 walkout.

Lunchtime Talk and Tour with Blackwood Staff Wednesday, October 2, 12–1pm

Viriditas (in the Future Perfect)

An AV performance-lecture
by Jol Thomson with audio
contributions from Julian Weaver
Wednesday, October 9, 7pm
Blackwood Gallery

Speaking through the origin of physics' alchemical/religious histories into a possible future with fusion reactors powering 15% of the planet's energy needs, in this performance-lecture, Thomson plays with hierarchies of knowledge and reality, exploring the possibility of transforming and renewing contemporary modes of logic and sense.

#Eco_Techno_Cosmo_Logic— Critical Quantum Geographies of the Imperceptible

Workshop and critical excursion
with Jol Thomson
Thursday, October 10, 10am–6pm
Blackwood Gallery

Working with/in experimental (astro) particle physics and neutrino and dark matter detection, in this workshop Thomson shares his approach to multiple ongoing fieldworks and his research in critical theory, contemporary physics, environmental studies, new materialisms, and the histories and philosophies of science. Participants will explore nonscalar sites and encounter unbound situations that challenge rational sense, logic, and binaries.

FREE Contemporary Art Bus Tour Exhibition tour to Blackwood Gallery, Small Arms Inspection Building, Art Gallery of Burlington Sunday, October 13, 12–5pm

Acknowledgments

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p. 15: Mikhail Karikis, *No Ordinary Protest* (video still),
2018. COURTESY THE ARTIST.
p. 16–17: Mikhail Karikis, *No Ordinary Protest*
(production still), 2018. COURTESY THE ARTIST.
p. 19–21: Susan Schuppli, *Atmospheric Feedback Loops*
(video stills), 2017. COURTESY THE ARTIST.
p. 25–27: Jol Thomson, *G24|0vBB* (installation view
in "Blind Faith: Between the Visceral and the Cognitive
in Contemporary Art" at Haus der Kunst, Munich).
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Gallery Hours

Monday–Friday: 12–5pm
Wednesday: 12–9pm
Saturday: 12–3pm

The Blackwood Gallery promotes LGBTQ2 positive spaces and experiences and is free of physical barriers. The gallery is FREE and open to the public.

