# Entangling Sensing: Arts-Based Methods for Teaching the Environmental Humanities and Critical Posthumanities

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**Abstract** Contemporary planetary crises have prompted a new wave of environmental and posthumanities scholarship, aiming to address our planet and its concerns as entangled and more-than-human. How might the radical propositions of the environmental and posthumanities be taught? This article argues that arts-based methods – characterised by sensation, open-endedness, interdisciplinarity, experimentalism and situatedness – offer generative approaches for embodied and embedded learning. Through three case studies, the article elaborates different arts-based approaches that the author has found especially generative when teaching the posthumanities.

**Keywords** Arts-based teaching. Posthumanities. Environmental pedagogy. Environmental Humanities. Aesthetics.

**Summary** 1 Introduction. – 2 An Anthropocentric Sensorium. – 3 Recording Posthuman Sounds. – 4 Designing 'Weathering' Prototypes. – 5 More-than-Human Role Play. – 6 A Set of Permissions.

## 1 Introduction

Recent years have seen an explosion in environmental humanities and posthumanities scholarship, which – in ways exceeding the more traditional humanities – aim to address the problems of more-than-human entanglement. Contemporary planetary crises such as ecosystem collapse or climate change are fundamentally more-than-human concerns and, in recognition of this, the humanities have sought to adapt to these conditions: what Cecilia Åsberg and Marietta Radomska term "more-than-human humanities" (2023-). These adaptations help us to better approach the entanglements between nature and culture, as well as more broadly challenge the anthropocentrism that prevents us from recognising the connections between human and nonhuman life. In contrast to inherited assumptions that nature, nonhuman species, or humans simply are what they are, as an unchanging ontological fact, both the environmental humanities and critical posthumanities emphasise contingency, relationality and more-than-human co-constitution. Planetary crises, in this light, can be understood as *more-than*-human concerns, making it necessary to consider nonhuman, as well as human, stakeholders.

As Åsberg and Rosi Braidotti tell us, this complex human and more-than-human situation requires its own "versatile research practices" (2018, 2). Might the same be said of more-than-human education, too? Perhaps learning the ontological and ethical insights of the environmental and posthumanities requires teaching methods outside of humanities conventions. In my own experience with teaching environmental humanities and posthumanities ideas at universities across Europe, I have found that only very few incoming students are familiar with them; their guiding principles often pose such a challenge to common preconceptions about nature, matter, nonhuman agencies, even our own bodies and identities, that it is not always easy to integrate them into a learning environment. How can the idea that 'we have never been human', as Donna Haraway puts it (Gane 2006), be learned by someone who has only ever experienced total fidelity to their own humanness? How can one learn to experience one's body not as an immutable and discrete singularity, but as a porous, contingent and co-constituted entanglement, incorporating human and nonhuman others? To do this kind of pedagogical work, we surely require more than the usual methods of humanities education. It seems likely that posthumanities education could easily make use of methods that are embodied, material, sensory and open-ended. Aesthetic, arts-based methods, operating in excess of logocentrism, and characterised by sensation, open-endedness, interdisciplinarity, experimentalism and situatedness may offer interesting pedagogical tools for developing tacit, embodied and embedded learning.

In the article that follows, I outline three different case studies from my own teaching practice, where I have adopted arts-based exercises to teach different concepts from the environmental humanities or posthumanities. Importantly, as teaching methods, the aim of these exercises is to convey or communicate existing theoretical concepts through experiment and play; it does not aim to produce entirely new knowledges in the classroom (although this may indeed happen, in the best of cases). These methods aim to augment textual materials, enliven the classroom, bring theory to the body, and allow an opportunity to explore ideas as a group, through active collaboration and experimentation. This practice-driven approach to teaching is especially helpful when teaching in international contexts – as is the case for the following instances – where students may be learning in a language that is not their native tongue. Arts-based, less logocentric, methods can provide a wider variety of pathways for student learning that can be enormously beneficial.

## 2 An Anthropocentric Sensorium

In *The Politics of Aesthetics*, Jacques Rancière suggests that the political power of art lies in its capacity for redistributing the sensible (2004). In other words, art's power to change what can be felt, what is ordinarily excluded from the sensorium and what is not, makes it – in the very best cases, at least – a possible tool for emancipatory politics. After all, Rancière writes, politics "revolves around what is seen and what can be said about it" and "who has the ability to see and the talent to speak" (2004, 13). Art, then, can be a mode of *dissensus*, challenging our normative sensory conditions and operating in sensory excess of normative perceptual boundaries, causing "modifications in the sensory perception of what is common to the community" (40). Art is able to shift the *partage du sensible*, that "line of sensibility that renders some subjectivities invisible, inaudible, or unavailable to the senses" (Panagia 2014, 94-8). While Rancière was writing in humanist terms, it is not a great stretch to think of this as a more-than-human concern. Considering Rancière's *partage du sensible* from a posthumanities or environmental humanities perspective, we can approach art as a method for challenging the anthropocentrism of our shared sensorium: a sensorium that only permits sensations that reinforce human separation and exceptionalism from environments, climate, (nonhuman) nature, and the world generally.

This sensory challenge is generative to environmental humanities pedagogy, which aims to create new ways of seeing, hearing, touching and otherwise sensing, producing knowledge for the student with and through their own sensing body. In a classroom's redistribution of

the sensible, through aesthetic methods, students may learn about the contingency of their sensing thresholds, and – again in the best cases – even their own bodies, and the inextricability of those bodies from the world and those that are other than human. They may learn about various entanglements and co-constitutions, since (as Karen Barad informs us) we do not look at the world from outside of it, but rather co-constitute it, as part, "in its ongoing intra-activity" (2003, 828). To sense the world is to be part *of* the world, which is to also co-create the world. While the anthropocentric sensorium limits perception according to humanist boundaries, diminishing our ability to sense our entanglement with an earth we are always and already *part of*, an environmental sensory pedagogy may seek to open up these boundaries – what Rosi Braidotti calls an "ethical transformative process" for "achieving […] awareness of our limits" (2006, 134).

It is important to note that the sensory distribution is a socio-political phenomenon that cannot be considered solely in terms of the individual; understood in feminist-posthumanist terms, as a kind of aesthetic performativity, this collective sensorium defines what *is* and *is not* legible as agential and, consequently, recognisable as *politically* agential. This is the *partage* that Rancière refers to: the boundary of exclusion and inclusion. As is the case with performative boundaries, this partition always takes place through and with bodies and subjects, but it cannot be reduced to a kind of individual consciousness: it is a social enactment, expressed through a performative matrix of norms (Butler 1990, 1-34). Performativity is powerful stuff, exceptionally difficult to break free from (as Judith Butler famously observed of gender). It is an unfair expectation to suppose that a few simple classroom experiments can rid us of our performed humanness. Even if that were indeed possible, students are rarely in a position to force the hands of lawmakers to enact wider political change. With this in mind, though, we might still hold bold ambitions for environmental or posthumanities education: to reveal performative boundaries, develop forms of knowledge about category contingency, and create subtle sensory shifts that challenge our inherited, anthropocentric beliefs about agency.

An environmental humanities, or posthumanities, pedagogy implies something far broader than typical formal education: instead, learning is worldly, relational and more-than-human, whereby *the world itself* is simultaneously teacher and student, author and reader, sensor and sensed. Education studies scholar Sharon Todd describes pedagogy in such terms, whereby learning is an everyday practice of pedagogical entanglement emerging from the "ways we move, perceive and live in, through, and with our environment" (2021, 250). This means that "all kinds of relationships are pedagogical", not simply those that take place in typical student-teacher environments

(Todd 2014, 232). Todd foregrounds the role of sensation in these kinds of learning experiences. As some sensations come to intensify more than others, they *become pedagogical*, as they enact shifts in meaning, behaviour, and even the boundaries of the self. Indeed, Todd tells us, sensations profoundly shape "how we become subjects and form understandings of the world" (2021, 254) and, as such, new kinds of sensational enactments have the capacity to reshape our knowledges, our bodies and our identities. She writes of how "through our [sensational] encounters with others (human and non-human alike) we shift the borders of our self understanding" (Todd 2014, 232), gesturing instead "toward an unnameable openness beyond our limits" (233). To bring such sensations to the fore, and to encourage a body's susceptibility and response-ability to those sensations is, for Todd, "the entire project of education" (2021, 255). She thus proposes that the job of an educator is in "creating [...] such encounters" (250).

If some of the aims of environmental humanities education lie in revealing the limits of our anthropocentrism, as well as encouraging what Todd calls 'bodily susceptibility' to more-than-human sensations, it suggests a generative role for the arts as potential teaching methods. If we are to follow from Rancière, aesthetic and artistic practices interrupt the flow of normative – and, I add, often anthropocentric – sensation, instead creating new and unexpected sensations and sensory knowledges about one's own contingent, more-than-human body, about nonhuman agencies and human-nonhuman relationality. Operating with and through the sensing body, arts-based pedagogies may be especially well suited for teaching the environmental humanities principles of contingency, entanglement and co-constitution.

## 3    Recording Posthuman Sounds

For new students who are unfamiliar with its ideas, the onto-epistemological implications of environmental and posthumanities can be hard to grasp at first. While text-based course materials and lectures are useful for providing a theoretical ground, these can be productively augmented with arts-based teaching exercises, giving the students the opportunity to test out theoretical concepts through bodily and sensory experiences. For a series of teaching workshops held at the Faculty of Fine Arts at Brno University of Technology, in the Czech Republic, I developed a simple programme which aimed to explore co-creation and more-than-human

agency by experimenting with sound.[1] Since the students came from a background in artistic practice, I suspected that a series of arts-based exercises might serve the students better in their learning than a series of lectures. I therefore set about designing an experiment in more-than-human collaborative exploration, using sound as an anchor to explore questions of entanglement, materiality, co-constitution and situatedness – common themes in the environmental and posthumanities.

I began the first session by asking the 25 or so students whether they had heard of posthumanism or the posthumanities. Only two hands were raised. Having established this as a starting point, I then offered a very broad and relatively brief introduction to posthumanism, pointing to general principles rather than specific details. There are, of course, many posthumanisms, and the version I offered was one rooted in feminist thinking, building on the work of Donna Haraway, Rosi Braidotti and Karen Barad. I described these cornerstone principles, perhaps crudely, as post-anthropocentrism and the recognition of nonhuman agency; the contingency of seemingly stable categories (such as human, nature, culture, or gender); the porosity of bodies and the co-constitution of worlds. Our inherited belief that humans are the only beings capable of creative or cultural production is, I noted, rooted in centuries of anthropocentrism, and I suggested that it might be interesting for them as artists to consider the ways in which nonhuman species, actors and matter (whether alive or inert) contributed to an aesthetic expression.

I don't claim that this primer to posthumanism was sufficient for a deep understanding of the topic. I had needed to omit many important details for the sake of brevity. This brevity notwithstanding, I then moved swiftly on to explaining the task ahead of us for the next three sessions. The students would be tasked with seeking out, and themselves participating in, a variety of sonic utterances, engaging nonhuman matter as vital collaborators in their sonic production. Sound, as they mostly likely had come to understand it, was entirely dependent on a division between subjects and objects: a *sounding object* is heard by a *listening subject*. This is a normative "causal and linear narrative" that, as Florence Chiew notes, positions "the perceiver and object of sensation" as "discrete entities" (2017, 48). Instead, I asked the students to approach sound as a relational phenomenon, whereby any sound is dependent upon an entirely contingent relational milieu. Sound was to be approached as a kind of coalescence, expressed as wave energies move through different materials and molecules, exciting them to the point of audibility. These vibrations not only take place in air (which includes the air in

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**1** The *Posthuman Voices* workshops were held at BUT Brno (CZ) in 2024-25.

the ear drum), but also in solid materials, such as wood or metal or even our own flesh. Any sound, then, is the collective vibration of all kinds of matter in unison: a chorus of material entanglement. Sound, understood in this posthumanist, relational way, is less a case of sounding objects and listening subjects, and more a mode of mutual touching, where the totality of matter in a particular environment vibrates and resonates all at once. This sum of vibration is what we call sound, and no single entity is responsible for it: it is always and already the enactment of a more-than-human set of relations.

The specificity of an environment and the relations that compose it makes any sound entirely unique and non-replicable. The materiality of a sonic milieu allows certain frequencies to become more audible than others, and because no two environments are materially the same, neither are two sounds. Any sound, of course, always incorporates human researchers, too, as we are part of that same relational field: as Karen Barad tells us, it is precisely our own entanglement that enables us to know anything at all (2007). This sonic and material situatedness means we can learn about the specifics of an environment through sound. By way of demonstration, I played recordings of different acapella vocals: one recorded outside, another in an empty room, and one in a room filled with large or soft objects. The students had no trouble determining which was which. Sound, then, teaches us something about the relationships that together constitute an environment, since sound is produced *by* and *with* that environment (rather than simply knowledge produced *about* it). This means that, with careful attunement and practice, it is possible to enter into a lively conversation with one's own field of relationality – and learn from it – by composing and improvising in situ with other humans, plants, animals, minerals or any other nonhuman matter.

The introduction now over, the students were split into three working groups, who would head out to play with sound and recording in the more-than-human ways we had been discussing. I asked the students to develop their own ideas and processes in collaboration, not only with each other but also together with their more-than-human environments. As they set off with various recording devices, they were prompted not to simply record 'sounding objects' 'out there', as though they – as researchers – were somehow separated from the sonic scene. Instead, they were tasked with engaging sound as a more-than-human relationality, an event unfolding in ways that implicates themselves and their material entanglements. *Co-constitution* was the key concept they were equipped with; otherwise, they were free to experiment in their groups.

After the final session, the students returned with an array of different interpretations. One group, running with the idea of their own bodily entanglement, explored the sound of their footsteps in

different environments: corridors, grassy stretches, gravel. Their movement set a sonic event in motion, they explained, but the sound's expression didn't end there: it was, they noted later in a feedback discussion, the entire space that constituted a footstep. A second group explored the multiplicity of their own seemingly singular and discrete bodies, exploring forces and agencies beyond their own conscious awareness: what sound did a body make when experiencing fear, an automatic response to an encounter? What did the sounds of their own digestion reveal about the multispecies world of their gut microbiome? In this way, they understood the body as not necessarily under the conscious control of the 'I', but instead sonically co-constituted by supposedly external forces both inside and outside the body. At such a point, can these forces really be said to be external at all?

A third group explored what they called 'elemental' matter: water, air, fire and earth. Non-living matter such as this tends to be imagined as the archetype of inert and insensate matter (at least in this part of Europe) – a foil against which the rich agency, animism and sensibility of humanity is set against. The group challenged this logic of inertia, engaging with non-living matter as vibrant and expressive, whose involvement in sonic creation was no less central than that of the researchers or their recording equipment. Among this cast of living and non-living characters, a bottle was the project's consistent protagonist. This bottle was set on fire, breathed upon, submerged into water or buried underground. A piezo microphone – that is, a microphone that picks up vibrations – picked up the sound and transmitted it to their recording device. The group were interested in how something supposedly inert was, in fact, highly expressive: sound, after all, is movement through time, and true inertia can only ever be silent.

During their experiments, and somewhat unprompted by the introduction I had given them, this latter group also experienced an unexpected flipping of causality, whereby the agency of the matter also began to affect them, as researchers. As they wrote to me afterwards:

> [Not only was] the vessel [bottle][...] affected by the elements, but also the person conducting the experiment. To expose the vessel to the elements also meant exposing oneself. Therefore, although we might think we are the ones in control [during recording], the elements also have control over us. (Jana Vysloužilová, e-mail to the Author, 29 January 2025)

It appears, then, that the students' practice-based sound experiments generated knowledge about causality that had not been given to them through my facilitation. While my introduction undoubtedly

influenced the direction of the students' exercises, and armed them with some guiding concepts, the ways in which they experimented with sound and nonhuman agency, and the conclusions they drew from these experiments, were entirely their own. While our time together was limited to three short sessions, students went from knowing almost nothing about posthumanism at the outset of the experiments to learning the basics, in ways grounded in their own creative, practical experiments. A simple posthuman provocation – *how is a sound co-produced with nonhuman others, as well as with yourselves?* – enabled the students recognise nonhuman agency which they could then design their own experiments around. This process is a pedagogical one and, as the group's reflection suggests, this kind of sensory pedagogy might even begin to, in Sharon Todd's words, "shift the borders of our self understanding" (2014, 232).

## 4　　Designing 'Weathering' Prototypes

As I have been developing arts-based approaches to use in environmental humanities teaching, I have often been inspired by the existing work of other artists and experimental educators. Some creative experiments I have returned to several times are those devised by Jennifer Hamilton and Astrida Neimanis, which aim to develop embodied understandings of 'weathering'. Weathering, as Neimanis and Rachel Loewen Walker (2014) put it, is a way of apprehending the entanglement between environmental weather and our own bodies. Our bodies are continually weathered: our sinuses might congest when we inhale pollen in summer, and our skin might start to darken from the sun; in winter, it might dry and crack with cold – materialisations which, inevitably, manifest differently through and with different bodies and beings. While we might ordinarily understand these as cause-and-effect phenomena, in which weather condition A simply causes embodied response B, *weathering*, as Neimanis and Walker define it, does not adhere to the same linear logic (2014). We do not have weather, on the one hand, and bodies, on the other: weather is not something located 'out there', but something we co-constitute through an array of bodily, environmental and climatic relations. "This is not just adjacent living", they write, "but a mutual worlding" (2014, 565).

One problem, however, is that it is very difficult to sense weather in this kind of co-constituted, relational way. Weather is positioned 'out there', as though in an ontologically distinct environment, having little to do with our living, sensing bodies. Tim Ingold describes this as a "colonial image" of weather, which plays out "upon the inanimate surface of a ready-made world" (2005, 103). In this conceptualisation, weather is merely "presented to human life as a surface to be

occupied" (103). Ingold contrasts this with what he calls the *weather world*, drawing inspiration from the phenomenology of Maurice Merleau-Ponty, which instead situates weather as a phenomenal 'comingling', in which one's self and the sky are drawn towards each other in the dynamism of weather (101).

Adding to this sense of distance is the separation of weather from climate. This separation has served an important political purpose: nobody wishes to engage in draining discussions with climate denialists about why we have snow in April. Climate refers to a long-term average, demonstrable through data and statistics, and is therefore unrelated to the singular experience of a day's weather. However, a problem that arises through this separation is that weather becomes merely anecdotal, a short-term experience that is disregarded as meaningful when considered as part of a body of knowledge about, say, planetary warming. Weather is experienced as a series of isolated, unconnected events, rather than part of an entangled earth system that implicates us, too (Hamilton, Neimanis 2018). This conversion of phenomenal weather into data points creates a sense of distance between a warming planet and our sensing, experiencing bodies: how, then, might we "bring climate change home" (Neimanis, Walker 2014, 559), so that we might better apprehend the experience of climate change through the senses? After all, the world is not entirely reducible to data and we ought to remain wary of building a climate politics that depends solely on such a reduction. How might we build a climate politics of the *weather world*, in which the phenomenal experience of weather through the body is not disregarded, but rather cultivates "an imaginary where our bodies are makers, transfer points, and sensors of the 'climate change' from which we might otherwise feel too distant, or that may seem to us too abstract to get a bodily grip on" (559)?

How, then, might creative experiments in a classroom help to underscore the importance of the body and sensory experience as a mode of understanding not only weather, but also climate? And, perhaps even more challenging, how might such exercises stress the co-constitutionality of a weather event? Helpfully, Neimanis and Jennifer Hamilton (2018) have devised a 'field guide' of experiments and creative exercises, each oriented to foreground experiences and sensations of our weather-bodies. Designed to be carried as a series of workshops among 'weathering collectives' of two or more people, the field guide outlines a number of practice-based tasks. Ideally, the exercises are to be conducted outside, although the authors note that we are always and already weathered, even inside, meaning the exercises can also be done in classrooms or other indoor spaces. These tactics of "weathering in the field" (Hamilton, Neimanis 2018, 1) aim to close not only the gap between bodies and weather, but also that which separates artistic research as an embodied practice from

the more theoretical aspects of the environmental humanities. In the 'weathering fields' opened up by these creative experiments, sensory experience and the sensory capacities of the body are approached as sites of learning and meaning-making. One exercise, titled "Weather Mapping, Through the Body", uses a series of questions to prompt thinking about the weather as relationally embodied. These prompts open up imaginative and non-normative ways of thinking about weather, including:

> Is weather shared? How and by whom or what?
> Is weather individualized? In what ways?
> What is the weather on the last day of Earth?
> (Hamilton, Neimanis 2018, 5)

Other prompts promote a sensory intensification of weathering, as participants are asked to:

> Close your eyes. Inhale and exhale deeply through your nose for several breaths.
> What does the weather smell like?
> Can you hear the weather? What are its sounds and rhythms?
> Does weather have multiple tracks? A melody? A bass line? (5)

These reflections are then incorporated into various follow-up exercises, which ask participants to, for instance, create maps of current weather conditions, or design prototype weather sensors. Hamilton and Neimanis make no grandiose claims as to the field guide's pedagogical efficacy, and they keep things intentionally open-ended, noting their hope that "it will be applied playfully, considered critically, amended usefully, and expanded thoughtfully" (2018, 1). They are, simply, propositions for loosening "our preconceptions and corporeal habits" (1), and we are encouraged to try them among our own 'weathering collectives', too.

Taking their cue, on one chilly December afternoon, I enlisted my MA students at the Freie Universität Berlin, Germany, into an informal, weathering collective over the course of a two-hour seminar. During our session, we practised two of the experiments in the field guide, in order to test out some weathering sensations. We began in small breakout groups, using Neimanis and Hamilton's questions (above) to imaginatively expand our idea of what weather could be, and how weather and the body are interconnected. Through students' answers, and during a bigger group discussion, our shared concept of weather sensing expanded from simply the aggregation of weather data to include imaginative storytellings, memories, and speculations. Some students discussed the weather on the day they were born, one lamenting that the sun rarely shone on their

birthday. The imagination, to some degree, became a weather station, bringing locally situated knowledges into our collective's concept of weathering. These 'weather reports' took the form of imaginings, observations, and stories about personal and shared experiences of weather, as creative play lifted weathering off the pages of text.

These questions got the students thinking about weather as an emotional, embodied phenomenon, setting the stage for a collaborative arts-driven exercise that would, I hoped, allow the students to consider the weather world in relation to their own bodies. In groups of three or four, the students were asked to design and make their own prototypes for weathering 'sensors', using various found objects, craft materials, and trash. These included recycled plastic scraps, balloons, kitchen paper, scissors, glue, fabric scraps, bubble wrap, sandpaper, sponges, card, string, candles, rocks, leaves, ping pong balls, curtain rings, glass jars and other miscellaneous objects brought to the session by the students or myself. In making this list of components, though, I do not mean to give the impression that the students' weather sensors were simply the total sum of these parts. The learning was in the *doing*, the process, rather than in what the sensor itself could measure and report. The process of prototyping – the act of making – was itself pedagogical, encouraging students to think about the different ways weather can be understood through different kinds of apparatus, and how sensory experiences of weather can be influenced by their own behaviours (that is, the behaviour of making a 'sensing device'). The weather-sensors, then, intensify the sensory aspects of a weathering relation; but which sensations come to the fore, however, depends entirely on the configuration of the apparatus itself.

As we discovered during a debriefing discussion session, the students' prototypes were incredibly diverse, as were the kinds of knowledges produced by making and using them. One group's prototype, comprised of an outdoor mobile of dangling spoons, sponges, and balloons, held up by string, would move differently in the wind according to the material density of each object, an ever-changing dance that revealed the ways that weathering differs depending on its material coalescences. Another prototype sensor set a diminutive ecological drama into motion: a small terrarium made from a glass jar, filled with foraged living moss and other organic matter, could enact a hyper-temporality, due to its exaggerated vulnerability to the elements. Their sensor was to be a canary in the coalmine, reacting to weather at a faster pace and more exaggeratedly than might be experienced with our own bodies: its small size would ensure that too much rain would quickly drown the moss, while too much sun would dry it out just as fast. As we discussed the prototype in more depth, however, the students soon realised – somewhat deflatedly – that, in creating this terrarium-sensor, and in its production of a material

boundary (in a literal sense, being the sides of the jar), they had most likely condemned any life within to death. In demarcating the boundaries of their sensor, it would soon become *over*-weathered. Overweathering – that is, when the weather-body entanglement overpowers the sustainability of life – is not an idea we had discussed in any theoretical introduction to the session. Yet the group began to outline an emergent set of ideas about the ambivalence of weathering relations and the ethics of boundaries. To be a weather body, they noted, is deeply ambivalent. Nor was a weathered entanglement, as their doomed terrarium would soon discover, necessarily a good thing; it could sometimes be harmful. The students then noted that we must take responsibility for the boundaries we unwittingly produce. While these ideas are common in environmental humanities scholarship, they emerged spontaneously and without prompting among the students, as they reflected on their own creative work. That such a generative discussion was possible suggests the pedagogical usefulness of the exercise, and while our conversation moved in a direction that differed to the one I had anticipated (about climate and sensing) and instead towards questions of boundaries and harmful entanglement, this ended up being equally beneficial for teaching environmental humanities ideas.

## 5 More-than-Human Role Play

A major premise of the critical posthumanities and environmental humanities is that we ought to shed our preconception that the 'human' (or, for that matter any kind of body, environment, or any 'thing' at all) simply *is what it is*. Rather, this thing we call human – far from being a stable state of being – is, in fact, a performative and entirely contingent genre, prone to transformation. However, as Judith Butler famously noted in the case of gender, it can be very difficult to perceive the performative categories of being which organise our world and shape our identities and bodies. In *Gender Trouble*, Butler points to drag as a mode of performance that can reveal the boundaries of gender categorisation, in which gender is performed in a transgressive, excessive, boundary-bursting iteration (1990). While they demurred on the radical potential of drag in later years (1993), I prefer to stay with its trouble: perhaps excessive, transgressive body performance can, imperfectly and incompletely, help to reveal the contingency of normative categories of being and the boundaries that contain them.

How, then, might role play as a kind of performance help teach often tricky posthumanities concepts like contingency, posthumanist (that is, material-discursive) performativity and the ontological permeability of bodily boundaries and identity categories? In an

attempt to find out, I've used semi-structured role play methods in the classroom several times, often adapting techniques developed by the artist and somatic practitioner, Susan Ploetz. She uses larp – acronymic for live action role play – as a method for collective storytelling and speculative fabulation; larp unfolds an improvised story between participants over the course of several hours, as they embody their appointed characters and react to one another. This enables a large degree of input from all performers. While a character may be designated in advance, a larp does not usually assign experiences or feelings to characters, nor does it follow a clearly defined script. Rather, it sets up a broad set of conditions for an improvised world, creating systems and rules that might shape a group dynamic.

In Ploetz's long-running alien larp series, *Skinship*, participants are asked to imagine themselves as non-human entities, with sensory capacities that do not align with human norms. This speculative premise means that Ploetz can guide and intensify unusual sensory encounters without ever defining what those sensations should feel like. The aim is to use this speculative, alien embodiment to defamiliarise everyday human sense experience, but what that new, unfamiliar experience might feel like is left open. *Skinship* larps begin by activating the senses in a fairly straightforward way: "merely being and observing [...] Let[ting] in an awareness of the circulation of breath through your body" (Ploetz 2022). Yet this soon develops into something altogether stranger, as those recognisable sensory experiences are used as a starting point for experimentation. Sensational experiences start to "build magic rituals, objects and poems" or "intelligences or special powers" (Ploetz 2022). Through sensory exploration, participants begin to develop an embodied form of paralinguistic storytelling, 'hacking' their imaginations to try out speculative sensoria and embodiments for size. This entanglement of body and mind (or, indeed, their inseparability) is rooted in Ploetz's own background in somatic training, a therapeutic bodywork practice that she describes as "a philosophy in motion and action" (Rumping 2020). The body (or, rather, bodymind) is approached as post-Cartesian *thinking matter*, capable of producing knowledge as it senses with, through and as part of its environment.

For my MA seminar at the Freie Universität Berlin, I had been asked to teach a seminar exploring different artistic methods – or at least this is how I had interpreted my somewhat loose brief – and throughout the semester, I had consistently sought to place arts-based methods within the environmental humanities. I frequently used creative experiments and games in teaching (such as Anna Tsing and Elizabeth Pollman's ever-useful *Global Futures: The Game*), meaning that the larp – while still a little left-of-field – was received enthusiastically by the students. We had previously held several

group discussions about bodily contingency and the instability of the human, especially after we had engaged with work by Donna Haraway, Astrida Neimanis (as noted above), and Karen Barad. However, the larp offered a way of augmenting this logocentric knowledge *with and through the body*, in which the body could be approached as thinking matter; the larp enabled theory to sink into the flesh through praxis and performance – or if that should fail, at the very least, it would offer students a memorable learning experience.

While Ploetz's larp performances are extremely durational, stretched over many hours or even days, I was limited to a two-hour seminar period. Despite this temporal limitation, I nonetheless attempted a loose adaptation of Ploetz's *Skinship* (based on my own attendance of a 2021 version, as well as Ploetz' own reports), albeit redesigned for the seminar. I began, as Ploetz does, with some warmup exercises, attuning to our fields of sensation through breath, touch, sound and smell. We then followed Ploetz's simple counting exercises to begin forging a 'collective intelligence': we would count upwards, calling the number out loud, intuiting when it was our turn to speak. After these warmups, we then began to design our nonhuman characters: we were to be aliens, strangers to this world. We gave ourselves new names and imagined certain characteristics: what kinds of bodies do we have? Do we have two arms and legs, or something else entirely? How do we sense our environments? Might we have sensing organs entirely unfamiliar to humans? Or perhaps, much like the Oankali in Octavia Butler's 'Xenogenesis' books – an important reference for Ploetz when she was creating *Skinship* – our sensing might be dispersed throughout our entire body.

Once our characters were designed, I then read Ploetz's initial worldbuilding prompt aloud to the group, which set the overall premise for our role-playing session:

> This world is alien to you, this world in this room. You may have been to earth before, so you might have other experiences on this planet, but the objects in this room are completely new. You have been sent from another place, to investigate. The main way you investigate is through your senses. […] Your mission is to explore the objects here, and gather information about them, and especially if you think they are intelligent, and/or hold any special powers. You will report back to the members of your group through words, which become chants and poems. The words help others understand what you are encountering. (Jørgensen, Ploetz 2020)

In the guise of our invented nonhuman and extra-terrestrial characters (which we hadn't disclosed to each other), we became curious explorers of earth, examining a series of objects as though they had never been encountered before. A tissue, a stone, a cup of

water, a strawberry. As I guided students to touch and smell – even, if they wished to, lick – the objects, they ascribed various characteristics and feelings to them. Their characters' sensing organs produced particular sensations, perhaps quite unlike those that their ordinary sensorium would notice. My own character, for instance, was sightless but highly sensitive to touch, so I emphasised the use of my own worm-like fingers, which became my primary mode of interacting with this strange world. I was amazed at the students' creativity: one student's character poured an entire glass of water out onto the desk in front of them, to the suppressed giggling of the other students in the room. We learned later, during our feedback discussion, that their character was only able to perceive in two dimensions. They had simply needed to pour the water out so that they could sense it.

Again loosely following Ploetz's method, the student-participants were asked to describe their sensations aloud to the group, in single words or utterances which would then be repeated by the others in unison. The character who sensed in two dimensions ascribed qualities such as shine or colour. Another student, whose character was able to perceive the emotions of non-living matter, ascribed qualities such as sadness to a seemingly inert stone (in our later debrief discussion, the student remarked that the stone was likely unhappy, having been dislocated from its place of origin, or the larger bedrock it had once been part of. Their character was able to perceive this ordinarily insensible emotional disturbance). The purpose of this collective repetition was to create a shared sensorium, which would start to feed into itself. This was, perhaps inevitably, rather awkward at first, but over time, the students became emboldened to speak their sensory experiences out loud. What began with hesitation ended almost instinctively, and more than one student reported in the debrief that their sensing almost felt like that of their characters. The imagination, even in this very short time, began to spill outwards to the senses.

In treating the objects as if never before encountered, the everydayness of the objects' sensible qualities is rendered strange and new; the emotions of stones come to the surface, even if only as an imaginative or speculative quality. In this speculation, however, the norms of our sensorium are called into question: what we sense to be ontologically true or fixed is, in fact, always a question of bodily situatedness and particularity. These are profoundly feminist, queer, crip questions (Kafer 2013), but also posthuman ones: Ploetz's *Skinship* larps ask us to imagine 'what if' we were something other than human, and in so doing, encourage us to perceive the boundaries and limits of our own humanness. Role play guides us towards knowledges of our bodies as sensuously adaptive, contingent, and prone to transformation and adaptation. Further, in deliberately seeking out processes of collective sensing, naming and chanting, it

becomes possible to open up a perceptual space that goes far beyond individual sensory experience. Instead, even over the course of a single session, something akin to a simple, yet nonetheless very real, shared sensory intelligence could begin to grow.

## 6 A Set of Permissions

Arts-based methods, as these case studies show, can offer generative approaches for posthumanities and environmental humanities teaching. Such methods – characterised as they are by embodied experience, open-endedness and experimentalism – not only 'undiscipline' traditional humanities pedagogy, they also generate sensational experiences that are in themselves pedagogical. It is impossible to speak for the students about their experiences as such, nor would I wish to homogenise their experiences into a unified whole. However, insofar as some student feedback has led me to believe, it does seem that arts-based teaching experiments might challenge preconceptions about causality, embodiment, subjectivity and relationality in some cases.

Arts-based methods are generative because they engage with, and intervene in, the same boundary-limits that are a focal point for much environmental humanities critical thinking. Boundaries that, for instance, exclude nonhuman agency and vibrancy, or those that seek to contain normativity or the body. On the other hand, in framing sound as a *more-than-human event*, as the exercise in my first case study sought to do, it became possible to recognise nonhuman matter as agential in the (co-)constitution of their sonic work. This challenges a sensory distribution that only allows humans to be recognised as cultural and expressive. The weathering exercise, in my second case study, led to a vibrant debrief discussion about boundaries, as students realised that their prototype-making had inadvertently produced them. And finally, through role playing as alien beings, the boundaries of normative sensing itself – the sensorium that continually reperforms our anthropocentrism – were imaginatively confronted, through speculative, fabulative sensing.

The boundaries that exceptionalise the human while excluding nonhuman agencies; or which 'contain' the human subject (a boundary often contiguous with the skin); or which separate nature from culture – these are certainly not immutable ontological facts, but they *are* held in metastability through an array of sensory norms. These norms characterise what Rancière calls the *partage du sensible* (2004); that is, a "line of sensibility that renders some subjectivities invisible, inaudible, or unavailable to the senses" (Panagia 2014, 94-8). This threshold for what can be seen, heard or otherwise sensed permits entry to the community only for some,

to the exclusion of many others (Rancière 2004). Aesthetic and artistic practices, in the very best instances, can intervene in those boundaries of exclusion and inclusion, causing "modifications in the sensory perception of what is common to the community" (Rancière 2004, 40). This is not to say that these modifications are dramatic; no singular work of art inaugurates revolution, and differentials in power are always embedded throughout any distribution of the sensible. However, small-scale, incremental modifications to an anthropocentric sensory distribution – such as those that might take place in a classroom – can engender modest shifts in how inclusions and exclusions are unconsciously performed through our everyday sensory practices and norms. These shifts raise meaningful questions about who, and who does not, count as politically agential. Among a classroom community, arts-based methods may generate sensory experiences that have the capacity to challenge anthropocentric sensory norms and boundaries. And with sufficient intensity, these aesthetic challenges can become pedagogical.

A crucial facilitator for arts-led pedagogy, however, is *permission*. This is not only necessary on an institutional level: the teaching outcomes from arts-based methods aren't easily measurable or quantifiable, flying in the face of standardised excellence frameworks which tend to oversimplify and quantify education. When I was first asked to lead a seminar for a master's programme, a combination of staff shortages and an unusually open-minded course leader meant I was able to teach in whatever ways I wished. "Just do whatever you want", was the advice given. Daunting as this was, my own background in artistic research led me to draw on arts-based methods and the creative practices of others. After all, I knew far more about art than teaching. In addition to *institutional* permissions, however, permission also emerges from art itself. Artistic research is, by nature, an open-ended practice. "[I]n contemporary art", says artist Grada Kilomba, "there is space to raise questions, whereas in other fields you are supposed to give answers" (Cotter 2019, 381). Artistic and aesthetic practices leave room for contradictions, ambivalences and uncertainties, producing what curator Lucy Cotter describes as "non-knowledges" (193). This makes using arts-based methods quite unlike many other kinds of teaching practice.

Importantly, the 'non-knowledges' produced through sensational experience are not absent of meaning, despite their paralinguism. Rather, they meaningfully intervene in the normative sensory flows that inform "how we become subjects and form understandings of the world" (Todd 2021, 254). In the cases described above, I like to think that these 'non-knowledges' offered glimpses of something beyond an anthropocentric sensorium, perhaps even revealing the contingency of that genre of being called 'human'. Environmental humanities pedagogy, in its broadest terms, might be a case of experimenting

"with different ways of constituting subjectivity and different ways of inhabiting our corporeality" (Braidotti 2006, 134). This is as much an ethical endeavour as a pedagogical one, and arts-based methods may be helpful for the task – immersing sensing bodies deeper into their own more-than-humanness.

## Bibliography

Åsberg, C.; Braidotti, R. (2018). "Feminist Posthumanities: An Introduction". Åsberg, C.; Braidotti, R. (eds), *Feminist Companion to the Posthumanities*. Cham: Springer, 1-12. https://doi.org/10.1007/978-3-319-62140-1_1.

Åsberg, C.; Radomska, M. (eds) (2023-). *More-than-Human Humanities*. London: Routledge.

Barad, K. (2003). "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter". *Signs: Journal of Women in Culture and Society*, 28(3), 801-31. https://doi.org/10.1086/345321.

Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham: Duke University Press. https://doi.org/10.1515/9780822388128.

Braidotti, R. (2006). "The Ethics of Becoming-Imperceptible". Boundas, C.V. (ed.), *Deleuze and Philosophy*. Edinburgh: Edinburgh University Press, 133-59. https://doi.org/10.1515/9780748627196-012.

Butler, J. (1990). *Gender Trouble*. New York: Routledge. https://doi.org/10.4324/9780203902752.

Butler, J. (1993). *Bodies that Matter: On the Discursive Limits of Sex*. New York: Routledge. https://doi.org/10.4324/9780203760079.

Chiew, F. (2017). "Sensory Substitution: The Plasticity of the Eye/I". Kirby, V. (ed.), *What If Culture Was Nature All Along?* Edinburgh: Edinburgh University Press, 48-69. https://doi.org/10.1515/9781474419307-005.

Cotter, L. (2019). *Reclaiming Artistic Research*. Stuttgart; Berlin: Hatje Cantz Verlag.

Gane, N. (2006). "When We Have Never Been Human, What Is to Be Done? Interview with Donna Haraway". *Theory, Culture & Society*, 23, 7(8), 135-58. https://doi.org/10.1177/0263276406069228.

Hamilton, J.M.; Neimanis, A. (2018). "A Field Guide for Weathering: Embodied Tactics for Collectives of Two or More Humans". *The Goose*, 17(1), 1-13.

Ingold, T. (2005). "The Eye of the Storm: Visual Perception and Weather". *Visual Studies*, 20(2), 97-104. https://doi.org/10.4324/9781003579588-45.

Jørgensen, J.; Ploetz, S. (2020). "LARPing Human-Robot Interaction". *HRI2020 Workshop on Exploring Creative Content in Social Robotics* (Cambridge, UK, March 2020). New York: ACM.

Kafer, A. (2013). *Feminist, Queer, Crip*. Bloomington: Indiana University Press. https://doi.org/10.2979/6841.0.

Neimanis, A.; Walker, R.L. (2014). "Weathering: Climate Change and the 'Thick Time' of Transcorporeality". *Hypatia*, 29, 558-75. https://doi.org/10.1111/hypa.12064.

Ploetz, S. (2022). "Suchness". *MM Praxis*. http://ecology-attention.mmpraxis.com/contributions/susan-ploetz/.

Rancière, J. (2004). *The Politics of Aesthetics: The Distribution of the Sensible*. Transl. by G. Rockhill. London; New York: Continuum.

Rumping, R. (2020). "Hopefully, It Provides a Glimpse of an Embodied Way Through This Difficult Time". *Oude Kirk*, 15 January. `https://oudekerk.nl/nieuws/ hopefully-it-provides-a-glimpse-of-an-embodied-way-through- this-difficult-time/` (2022/01/15). Archived at `https://web.archive. org/web/20220101000000/https://oudekerk.nl/nieuws/hopefully-it- provides-a-glimpse-of-an-embodied-way-through-this-difficult- time/`.

Todd, S. (2014). "Between Body and Spirit: The Liminality of Pedagogical Relationships". *Journal of Philosophy of Education*, 48(2), 231-45. `https://doi. org/10.1111/1467-9752.12065`.

Todd, S. (2021). "Education, Contact and the Vitality of Touch: Membranes, Morphologies, Movements". *Studies in Philosophy and Education*, 40, 249-60. `https://doi.org/10.1007/s11217-021-09765-w`.