

“Japan”/Japan Online: NatureCulture

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Abstract

Four STS (science, technology and society) collectives (from Kenya, Turkey, Japan, and Ecuador) presented their archives and accounts of their collective work at two meetings of the Society for the Social Study of Science (4S) in Sydney 2018, and New Orleans 2019. These presentations are not only very interesting in themselves, but are housed on a digital platform (Platform for Experimental Collaborative Ethnography or PECE) that poses the question—and attempts to build a solution—of how ethnographic materials can be digitalized and made available for productive further activity. As one possible response, four *engagements* texts are published on STS-Infrastructures: “KENYA: Techpreneur, Transnational Node, Kibera” (2023a), “TURKEY: Inside and Outside the University” (2023b), “‘Japan’/Japan On Line: NatureCulture” (2023c), and “ECUADOR: Thirdspaces amidst Social Conflict” (2023d), along with a consolidated list of references entitled: “Bibliography for Varieties of STS” (2023e). All of these are extensions of the overarching text published in the *Engagements* genre of the *ESTS* journal entitled: “Varieties of STS: Luminosities, Creative Commons, and Open Curation” (2023f). This *engagement* focuses on Japan.

Keywords

Japan; creative commons; open curation; NatureCulture; PECE platform; STS across borders; space; place

Introduction

A multispecies approach is step 1 in the understanding of hybridity.
A network approach is step 1 in the understanding of distributed collective intelligence.
The Ant Network Manifesto ([Chattopadhyay and Bowker 2019, 35](#))

Fukushima as ecologies . . . Fukushima as nuclearity . . . ([Hiroko Kumaki 2022, 709](#))

I use *en* (縁, or Pratyaya in Sanskrit) in the colloquial sense of the term used in Japanese: a lived experience of an ecological relation brought about by chance or a supernatural force, and a framework of relationality where everything is, by some extra-scientific logic, interrelated. ([Ryo Morimoto 2022, 72](#))

In the slow turn away from speculative philosophy to grounded ethnography, from the “ontological” turn to the ecological turn, from presentism to future scenario-and-design thinking, and from linguistic

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enclosures to curiosity about translation across linguistic-and-cultural grammars (other ways of thinking), a new open-access online journal from, but maybe not in or about, Japan has poked its head up. The new semi-annual journal *NatureCulture*, among other things, is an experiment in self-publishing.

It seems not to be locatable in the Hollis catalogue (the library portal of Harvard University which also links to other libraries, and in itself is the second largest research library in the United States after the Library of Congress), but it is easily locatable online by just typing in the name in a search engine. It is peer-reviewed, with prominent editors, contributors, and advisory board. It has been welcomed and introduced by EASTS (the *International Journal of East Asian Science and Technology Studies*) as one of a number of companion journals. The editors of *NatureCulture* tend to locate themselves as anthropologists with interests in STS, while also smitten by speculative philosophy memes. They locate themselves as engaging with contradictory imperatives, “staying with the trouble” as Haraway has memorably put it.

“Natureculture” is a playful neologism, used by Donna Haraway, though she is not much quoted in the editors’ effort to articulate “Locating NatureCulture” perhaps because the editors are not as interested in the technosciences or in political struggles as is Haraway (she is quoted more fully in the editors’ quite elegant introduction to volume 5 “Anthropology and Science Fiction: Experiments in Thinking Across Worlds,” [Jensen and Kemiksiz 2019](#)). Three other formulations of what natureculture points to include, first, Chattopadhyay and Bowker’s principles in their sly and wonderful ANT manifesto ([Chattopadhyay and Bowker 2019](#)): $N \subseteq C$, $C \subseteq N$ (nature includes culture, culture includes nature); or there is no Nature-Culture (NC) divide: (a) C exists as a system of interpretations of N; (b) the technological is simultaneously N and C; and (c) assisted evolution is not a movement from $N \rightarrow C$, but $N \rightarrow N$. Second, Michael Fisch ([2019](#)) would read natureculture as a Deleuzean “zone of indeterminacy” that ideally should generate new beginnings from *mixed processes* (rather than concepts) or from distinct items that share components but do not merge (Venn diagrams?). Third, I have suggested paying attention to the fact that “nature” and “culture” are not symmetrical terms, are only one possible distinction, and that “unnatural” is the opposite of “natural,” not “culture”; and that “nature” is used (in English, also German, and other languages) for both what is deeply us and what is not us ([Fischer 2009](#)).

In any case, or perhaps in illustration, two sets of readings are possible: The first part locates *NatureCulture* in the cloud more than in geography. It acknowledges first steps in taking language seriously in the journal’s five blog entries. The second part turns to the play with science fiction, and, more specifically, ourobus or Möbius Strip topologies as metaphors or analogies for scenario-and-design thinking in new media, in more sophisticated ecologies, and in social contract theory.

Ryo Morimoto’s use of wild boars “in and out of evacuation zones and through entanglements with foodstuffs, radioisotopes, infrastructures, and governmental policies” makes such ecological, material-semiotic, and social contract elements evident to farmers and residents, not just academics or planners. The boars are more than visible: having eaten radioactive vegetation, when boars are caught and cremated, radiation is again released. The complicated entanglements shifting over time and modes of imbrication

with cascade effects make for *katarinikusa* or a “difficulty of telling,” a crisis of representation, in both the sense of narrative capture, and in the sense of the politics of interests, stakes and abilities to live or flourish in a landscape that is changing in toxicity and uncertainty.

NatureCulture

On “Locating NatureCulture”

In an introduction, “Locating Naturecultures,” the journal editors describe their publication and its supplements (blogs, website, separate interviews) as aspiring to be in spaces betwixt and between, perhaps in what I and others have called a “third space.” Hosted, produced, and mainly edited in Japan (but editors are distributed elsewhere), its five issues to date are special issues, results of workshops and symposia held in Japan, though often convened by guest editors from elsewhere. It is in English and not particularly interested in Japan. Apart from two papers on robots and two on Fukushima, there is little content about, or situated in, Japan. It aspires to introduce young Japanese anthropologists to discourses outside Japan but primarily those in Europe and North America. Initially, founding editor Naoki Kasuga directed interest towards the so-called “ontological turn” as espoused by north Europeans in Annemarie Mol and John Law’s *On Other Terms* (2020), although elsewhere, the editors admit Kasuga’s work is engaged rather with “practice theory” (Jensen and Morita 2012). In more recent issues, the journal turns to other vocabulary, including a turn to science fiction and attention to the fictive nature of all writing, and to the diversions and multiple referential potentials and shifters inherent in language use. It admits to struggling to find an audience in Japan where, it is said, there is a readership for anthropology in Japanese but not particularly in English.

It refuses to be officially hosted at Osaka University’s institutional open access repository (unclear why), perhaps for a sense of independence, although the online publication does list Osaka University as a running bottom credit. It declines DOI and ISSN registration and poses the consequent refusals of the agencies that do such registration to list the journal as a symptom of the materiality of location it wants to escape (they demand “an address”). It foregoes any affiliation (abandoning the Japan government grants it began with) in favor of paying for production costs by the editor. It keeps the costs below \$50 (USD) by parasiting on media produced and paid for by others (Xerox®, WordPress®, Microsoft®, Facebook®, Dropbox®, Slack®, etc.), and using other “free” platforms when available such as PECE.

It is, in other words, an independent venue for anthropological and STS discussion, and an experiment in making online, open access, journals work as publishing models change. Like other online venues it is also more than a journal, though not quite a platform. It has a website, a blog (with however only five entries) and a section of interviews (there are three so far: Kim Stanley Robinson, Isabel Stengers, Marisol de la Cadena).

On Language

Jensen and Morita in their 2019 article in the journal propose the Japanese word for nature (*shizen*, from Chinese *ziran*) as a token of not just translation issues but of so-called ontological difference (Jensen and

[Morita 2019](#)). The term was introduced in the nineteenth century and has become the conventional, but not the only, translation. The original Japanese and Chinese means roughly “independent of human will.” One might presume that it links to wider semiotic and cosmological idioms in Asian worlds, including the role of sound, wind, and other phenomena, both natural and metaphorical: e.g., veiled (*ge*) or withdrawn, and unveiled (*buge*), in shamanism and music; *qi* in acoustics and medicine; *shanshui* in painting and music; *jian* in breathing and resonance; *gui-shen* in the contraction-expansion of worlds and the movements of ghosts and spirits ([Wang 2021](#)). The point for *NatureCulture* is presumably that *shizen* operates as a mobile indexical, pointing to multiple permeable and interacting cultures and time horizons (China, Japan, the European “West,” nineteenth-century Japan, and today’s post-globalization or transnational worlds).

The blog is used for a few more such tokens of linguistic terms that translate poorly or rather require (as Bronislaw Malinowski and J. R. Firth long ago pointed out for anthropologists and linguists, and is normal ethnographic practice) at least a three-level analysis: gloss (rough meaning), semantic network of words made up of roots and modifiers (literal meaning), and situated cultural use (translation). The blog includes such examples as an Italian middle voice reflexive verb that is used for varieties and nuances of “trust” or “entrusting” (*affidarsi*); two Australian aboriginal terms for performative poesis (*marngi* “ways of knowing”; *dharuk*, “speech”) and an effort to teach a Japanese linguist to stop asking *what* individual words mean, but rather *how* Gupapuynu know and pay attention to their “inner meanings,” for instance, body-part terminology that metaphorically and metonymically are used in daily idioms; a discussion of the Chilean term for a roaming community dog (*quiltro*, presumptively from the indigenous Mapuche language); a note on Humberto Maturana and Francisco Varela’s *autopoiesis*; and an exchange on *buskomor* politics (Hungarian form of maintaining a sense of agency by just doing something even when no feasible goal is in sight, as in the idiom *sirva vigad a magyar* (“celebrating with tears like a Hungarian”) or the Dutch *dweilen met de kraan open* (“passing the time while the [beer] tap is open”).

I am reminded of *Public Culture*’s early effort to probe the translatability of concepts such as “public culture” and “civil society” into Chinese (a discussion by Leo Ou-fan Lee), and into Persian and Arabic (by Mehdi Abedi and myself); and debates in Iran over the translation of “anthropology”: should it be *mardom-shenasi* (the study of people), *ensan-shenasi* (the study of moral persons, the equivalent of Yiddish “Mensch”), or *jome’-shenasi* (study of society).¹

Language is critical here, and, of course, a venerable topic in linguistic anthropology (Bronislaw Malinowski, J.R. Firth, Benjamin Lee Whorf, Ferdinand de Saussure, Roman Jakobson, Michael Silverstein, Stephen A. Tyler), pragmatics of language (Charles Sanders Pierce, John Langshaw Austin), translation (Walter Benjamin; constant retranslations of important literary works), creoles, trade languages, and pidgin

¹ For more see: [Fisch 2019, xiv–xvi](#), and also for the opposed meanings of anthropos in ancient Greece.

(including trading zones among technoscientific disciplines, in Peter Galison), appreciations of “poeisis” and rhetorical tropes beyond speakers’ or writers’ intentions (Paul de Man, Jacques Derrida), and concerns of how digitalization and gamification is changing language use (Ludwig Wittgenstein’s language games, Jean-Francois Lyotard’s small narratives, Jean Baudrillard’s simulations, Friedrich Kittler’s technolanguages, Don DeLillo’s white noise, and even Latour’s appropriation of some of these in his twelve or fifteen so-called modes of existence). So far, there is little attention to these matters in *NatureCulture*, but there is more attention to recursive rhetorical tropes and language games expressed through science fiction.

Perhaps a word on white noise is in order. One of the features of contemporary academia is the proliferation of memes, “concept-terms,” and redescriptions using alternate vocabulary, sometimes appropriately trademarked to a genealogy of thought but often attributed only to a particular author in a *sotto voce* politics of citation that has less to do with the subject matter at hand. This profusion is often the grease that keeps the wheels of stimulation turning and while a natural language use of analogy or metaphor, in itself is neither democratizing nor deconstructing of worn-out terminology. The “pluri-verse,” for instance, is used in one student thesis to help explain how childcare platforms can be constructed in different ways to protect providers, or to serve middle class consumers rather than immigrant and low-wage providers, or to foster entrepreneurial profit for app designers, or to enable unionizing and collective bargaining, or for other configurations. If this helps in design-thinking, good. Whether it helps in creating a philosophical alternative to space and place terminology, or whether it is a way of building a new thought collective is an ethnographic question, perhaps a matter of concern, as digital velocity increases and the very nature of language and communication on platforms morphs. At issue is not the nominations (nominal terms) but the problems and scales of interaction (social or logical or sociolinguistic) they are meant to help negotiate. Again, a challenge for archival retrieval and platform curation.

Science Fiction in Real Life

Among the more intriguing explorations in *NatureCulture* are the efforts to use ourobus or Möbius Strip topologies to ethnographically explore new media and future scenario-and-design thinking.

New Media

Marisa Brandt and Lisa Messeri (2019) write about “small screen” (television and streaming) stories about women using virtual reality (VR) as therapeutic aids in dealing with trauma, that is, VR is an opportunity to play with being in two worlds at once, or using the fictive one to calm one’s stress in the traumatic one. Brandt and Messeri identify this theme or subgenre as historically (situated, conjunctural) emerging after 2014, when Facebook® purchased Oculus, and developed the Oculus Rift®, a headset that was more affordable; and as the VR market innovation drive towards fully immersive media plateaued (“the growth was too fast, the hype too high, and the tech too expensive, not to mention that the SF dreams of VR worlds looked like nightmares”). The dominant adventure genre with a male hero saving the world became challenged on the small screen by “female, queer, people of color and neuro-divergent protagonists who must save one another” and, more importantly for *NatureCulture* arguments, possibilities “for becoming” through emergent interaction between human and technology (as female VR artist Jacki Ford Morie put it).

The early computer therapist, Eliza, only mirrored back what users told it, but VR stories explore rather the ways computers might interpret human desire and reflect it in game engine simulations. Stories have a way of diverting expectations, twisting, changing and showing dystopian aspects of the self, and intensifying them to become “trauma traps.” In “Real Life” a blonde policewoman, Sarah, suffering flashbacks and anxiety after the killing of several recruits, is given a VR device as a gift of care by her wife, Kate. Kate tells her it will be a way of disconnecting from this life, of escape into a fantasy world, a vacation of sorts. But the VR works by tapping into characters lurking in one’s subconscious. Sarah’s avatar turns out to be a wealthy black 40-year-old male who wants justice for the murder of his wife who looks just like Kate. Freaked out, Sarah always now sees the murdered woman whenever she looks at her wife. Kate tries to demystify the program’s design by reminding Sarah of having been “wracked with guilt over the massacre for a year and the last thing you said before you started the program was that your wife is too good for you . . . The program created a world where I’m dead and you’re tortured with guilt.” The twists of the psychodynamics continue, but the point is the possible emergence of trauma traps and their intensification through simple machine-human interactions.

Other topological explorations of such VR stories are not so negative. The series *Reverie*, explores how a therapist, Mara, helps different users to break their addiction to the VR worlds and “come home.” To do this Mara has to interpret users’ private worlds that are projected in the VR simulations. She must figure out their deeper motivations for abandoning their real-life world, and find ways to fulfil these desires in the real world. Here empathy, interpretive skills, and communication skills need to be brought to the VR, rather than it being used as an autonomous device. In another series, the search for a successor leader (programmer?) of a utopian community, requires someone who will respect the rules of shutting down for periods of recovery and reflection, so as to protect the community, and prevent it being subject to ego-perversion.

Brandt and Messeri explore feminist potentials in these VR episodes, but they also explore the less-than-feminist real world conditions: these VR films were still made by mainly white male engineers, producers and writers; and perhaps more to the point—and in line with the Geert Lovink and Ebru Yetişkin discussion above—they cite bell hooks’ worry that stories that again domesticate women in the home as caregivers (traditional scripts and stereotypes) will also depoliticize home “as a site of resistance and liberation struggle.” Therapy as depoliticization is a worry that has dogged psychotherapies for years. But Brandt and Messeri cite a *Black Mirror* episode “San Junipero” (2016) in which a black woman dying of cancer and a white woman in a coma are enabled to live an openly gay life with one another, which was not possible for them in the 1980s America in which they came of age. In a way it is reminiscent of a Bollywood film that has been playing daily on the big screen in Mumbai since 1995, in which a love marriage across caste and religious lines is negotiated as a third way beyond tradition and total break with family. People identify in many different ways through the story in the continuing struggle between traditional mores and liberated ones in India (Mashal and Raj 2023). Parallels can be found in the ways early American network television taught immigrants, ethnic communities, and new working classes about the promises of new lifestyles, helping externalize and see beyond their immediate family and gender struggles (Lipsitz 1990). Abu Lughod did a similar study of television serials in Cairo (1997), and there are many other such examples.

But VR brings an added component of speculation about the twisting feedback loops of more and more immersive media. At issue is not just the reflection back of psychological patterns, but the possibilities of *predictive media that can misinterpret* and send the user down strange wormholes. Today's predictive ("artificial intelligence") media require more and more vigilance—from Microsoft's predictive typing or word processing algorithms (which require ever closer proof reading vigilance, but operate on a logic of stochastic "good enough" results), to today's Open A.I. and Google GPT-4 abilities to scrape the entire Web and produce student essays and stories that can pass the Turing test (albeit, as Kim Stanley Robinson in his interview on the *NatureCulture* website says, this is an increasingly low bar ([Kemiksiz, Jensen, and Robinson 2019](#))). The degree to which redundancy can act to screen out false positives is weakening as registered in the debate about fake news, and silos of echo chamber news.

One might ask in passing if different VR worlds are different ontologies? Perhaps. But how impoverished to simply call them that without all the complications of the actual interactions (hardware and software development, expectations and uses, social and political struggles, financing, discursive competitions) that make them double worlds.

From Naive Ontologies to Ever More Sophisticated Ecologics

Articles by Michael Fisch ([2019](#)) and by Bodhisattva Chattopadhyay and Geoffrey C. Bowker ([2019](#)) both use Adrian Tchaikovsky's science fiction novel, *Children of Time* ([2015](#)), to think towards a multispecies anthropology, and perhaps further towards fuller ecological sensibilities. Steven Brown ([2019](#)) does something similar with three novels of China Miéville to explore the semiotics of time as semi-porous membranes that can fold and unfold (as in origami) and allow for specialized ambassadors to relay messages across the membranes to other worlds, in modes that can be heard/comprehended across different time horizons. Natasha Myers ([2015](#)) and Wakana Suzuki ([2015](#)), in a more limited metaphorical sense use this ambassador notion when following molecular biologists' interactions, signaling, and communicating with plants and cells.

Social Contract Theory with Non-Human, Enhanced Human, More-than-Human others

Fisch attempts a straightforward reading of the novel as an attempt to rethink social contract theory set not among humans but between humans and non-humans (ants and spiders). The latter are unintentionally infected with a human nanovirus that produces "unanticipated becomings." The spiders through vibration, scent, and enhanced ability to weave webs of mutual recognition and alliance evolve without language but communicate through genetically encoded biochemical techniques. The spiders first figure out ant communication, reprogram ants to serve them, but they cannot communicate with humans—they inhabit "incommensurable ontological planes,"—but they hack the nanovirus and infect humans, and as with the ants rewire them, this time to foster mercy and compel them to recognize the spiders as kin. It is a thought exercises of non-verbal ways of finding ways to build cooperative alliances.

The notion of social contract theory evokes Michel Serres' reworking of the French political ecology traditions through "natural contract" ([\[1992\] 1995](#)). While natural contracts initially were implicitly local,

taking nature as given, available for appropriation, as technological extensions make human make new forms of feedback and resistance, such that human societies need to move from parasitism to symbiosis with natural cycles. Kerry Whiteside explains that Serres' notion of a natural contract is neither an ethical act in which people come to an agreement, nor is it grounded in a view of pre-existing nature which is given judicial recognition (as in sixteenth-century French court trials of weevils and beetles), but it is rather a literal *con-trahere* (gathering together), as in the image of tightening the ropes of the rigging of a sailboat, "a complex set of constraints and freedoms in which each element receives information through every adjustment" (Whiteside 2002, 113–150; Fischer 2009, 130). Haraway's cat's cradle and string theory comes to mind here as a more abstract miniaturized model (Haraway 2016). Latour's shifting affordances and constraints among "melanges of things that transcend human control and of actions imputable to mankind" (Latour 2012) are also similar, and he adds with his slippery notion of actants versus agents, that these melanges come, or must come, or should come (by way of being matters of concern) to have seats in the "parliaments of things." Matters of concern, of course, are an unassimilated return to human agency from his usual insistence on less sentient actants (or cyborgs in Haraway's terms).

Michael Fisch's reading of Tchaikovsky attempts to fill in for Latour how one gets from conflict against non-kin (intra-human conflict) to cooperation (with cultural others) and symbiosis (with non-human others) via current knowledge of ants and spiders' modes of perception (vibrations), communication (scent trails), virology (nanovirus), neurology, and human behavior (aggression against non-us). More filling-in would be welcome, since, after all, immunology has long been defined as us/not us (issues of organ rejection, and life-long immunosuppression), and chemical bonds produce new substances (alloys, promises of synthetic biology), and there are many other connectivities that are currently being explored at a variety of scales (atomic, nano) and configurations (structural biology). All of these are material-semiotic operators.

Chattopadhyay and Bowker (2019) provide a funny, inventive and brilliant reworking of Bruno Latour and Michel Callon's Actor Network Theory, as well as critiques of both network approaches and multispecies approaches as only tiny first steps toward planetarity and towards any possibility of human survival (possible only in concert with other species in an ever shifting, adaptive, complex system). Further, they expand upon Brandt and Messeri's appreciation of the evolution of the SF field or imaginary. They agree, for instance, with Amsterdamska (1990) that Latour's original Actor Network Theory was still modeled on a superman imposing his will; but that later he tried to incorporate emergence. They note in passing that Callon's scallops are not particularly agential.

They playfully lay out Ant Network Theory, in three forms: a space odyssey fable (written in three columns), a four-point manifesto, and a packed set of footnotes where the academic stuff is, well, stuffed. It is in the footnotes that the actual argument is presented (2023). A core to Ant Network Theory, they say, is stigmergy—communicating through leaving traces in an environment, which allow feedback from the individuals (an ant leaving a trail) to the collective (the ant collective). There is a nice meditation on predictability of groups (as opposed to individuals), swarm models, emergent effects. They note Isaac Asimov's move from crowd models to swarm ones as a token of the evolution of SF itself as a discursive field.

The field now includes self-organizing nanobots, memory as a highly collective phenomenon; farming of fungus by leaf cutter ants (discovered by Alfred Russel Wallace, but now a metaphor and icon for the cover of a book on blockchain); and the dispersion of red ants in single colonies thousands of kilometers wide (meaning they don't attack one another over this expanse—one might think of Edward O. Wilson's brilliant small novel within his novel, *Anthill* ([2010](#)), on ant wars from the ants' perspective).

This indeed is a “filling in” far beyond the usual “multispecies tropes” of dealing with one or two animals, and of course beyond philosophers thinking with animals as metaphors, and reflections of the self, without being interested in actual animals (something Haraway called out long ago); or speaking of animals in mythology as if there were the same in the wild (ignoring the actual situated ecological knowledge that myths often carry and signal in the way they structurally vary from group to group, as demonstrated by Marcel Detienne's analysis of Greek mythopoeics of spices grown in hot places such as the Persian Gulf, and often in Claude Levi-Strauss' four volume *Mythologiques* ([\[1964\] 1969](#), [\[1966\] 1973](#), [\[1968\] 1978](#), [\[1971\] 1981](#)).

On Metaphor and Anthropomorphism

Wakana Suzuki and Natasha Myers' mischievous and delightful essays on onomatopoeia used by iPS cell biologists to interpret and talk to their experiments, and on code switching when talking about vegetal emotions, or actually, *plant sensing*, are interventions in the debates about anthropomorphism and literalism in language philosophy. Suzuki reports on some ethnographic work in Masayo Takahashi's lab at the Riken Institute in Kobe. (He calls her Yoko Murakami, a tic that some anthropologists develop of not naming even their most famous, publicly known interlocutors, which can only make their observations less useful to others.) Masayo Takahashi is a pioneer in developing iPS cells (induced pluripotent stem cells) for treating eye disorders. Following a suggestion of philosopher Kiyokazu Washida that onomatopoeia in the Japanese language is a phenomenological mode of turning visual and sonic sensations into auditory ones as ways of directing attention, Suzuki tells us that skilled technicians are called iPS *sommeliers* who can by their sensory discriminations tell the health and development of cells, without having to rely on or verify the markers. They talk to and about the cells as *kawaii* (cute), *pichi-pichi* (lively), *pika-pika* (bright) *puri-puri* (plump), *tsuya-tsuya* (glossy); and can tell when the cells are sad or happy, saying that they have faces. But what is not clear is that the cells understand these endearments, projections, and qualitative descriptors, or that they react to them (though theoretically they might respond to vibrations of which sounds are made). One can call this “human-non-human” interactions if one likes, but it is asymmetric and not the same as Haraway's account of the different training of dog behaviors into different breeds according to the work tasks they are bred to perform, and hence the need to take their differences into account when training their human owners to handle them.

Similarly, Natasha Myers teases with a scientist's code switching between colloquial metaphorical usage and more scientific restrictive descriptors of *plant sensing*. The delight in her descriptions, in her earlier work on how molecular biologists use their bodies to explain protein folding, and now in scientists' as well as ordinary people's affective responses to plant action, generates productive laughter and discussion. It is a

kind of lovely magic trick, this code switching. She feigns surprise that her plant biologist interlocutor resists talking about vegetal emotions, but even in her very title recognizes that at issue is *plant sensing*. Her double play with language serves also (valuably and pedagogically) to convey some technical explanations to lay audiences who might be bored otherwise. Thus, she tells about plasmodesmata and symplasm—that is, gates or pores in plant cell membranes allowing molecule transport and signaling across adjacent cell walls; and hence the channels, they thus make, show that plant cells are not isolates or separate units, but parts of larger units connected by transport and signaling (or communication) infrastructures ([Marzec and Kurczynska 2014](#)). Myers pretends to puzzle over the contexts in which scientists use more restrictive versus freer language, but these are all modes of re-description rather than differences in either the action of plants or the interactions of what plants and humans do that affect one another.

At issue are fruitless debates about anthropomorphism and literalist language uses. In Myers observation of a recent wave of speculative books on “plant thinking,” she does not distinguish between those that are restricted to Peircean semiotics ([Kohn 2013](#)), and those that naively speculate (as philosophers playing with metaphors as opposed to scientists performing experiments) with anthropomorphic language. In an interesting counterpoint, Karen Bakker in *The Sounds of Life* ([2022](#)), notes that when Roger Payne and Scott McVay published their 1971 landmark paper on whale song, they deliberately chose to use the controversial word “song,” though until then the complex sounds of whales were only described as sounds ([Payne and McVay 1971](#)). But Katherine Payne, Roger’s wife and documenter of both whale and elephant communication, had elaborately mapped out with a spectrograph the repeated complex musical patterns. This wasn’t discovery by intuitive attunement or feeling for the organism, but pattern recognition, down to being able to identify individual whales (voices) ([Bakker 2022, 22](#)).

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