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Towards a Media Ecology of Sense Acts

Abstract:

The chapter offers preliminary notes towards an analysis of the forms of sensing and making sense that emerge at the interface of the organic and the technological. I argue that these forms have the capacity to productively challenge and expand our understanding of the key notions of aesthetics – aesthetic experience and aesthetic judgment – and with that, to rethink the prevailing anthropocentrism of aesthetic tradition, shifting attention to the phenomenon that was at the roots of the aesthetic project, namely *aisthesis*, or sense-perception. One useful context for such an inquiry is a media ecological approach, with its emphasis on relations between different agencies and the shifted role of subjectivity. The questions then include: How can the aesthetic perspective complement the existing theories of forms of cognition within biological and technical systems? What are the best terms for the analysis of the qualitative aspects latent within the interpretative procedures that happen in living and nonliving matter? And vice versa, how can the "microperformances" and sensorial acts at the cellular and molecular levels affect how we conceive of human perception? Looking at the operations of relating at either human or nonhuman levels through the prism of a medium that underlies them helps to ground this discussion in a particular way. The chapter features particularly the aesthetic strategies exercised by a number of contemporary artists that bring to the fore the mediatic operations as sensory events and exemplify ways of engaging with the broader ecology of media sensorium, still to be discovered and cognized.

Keywords: media ecology, sense act, sensing, aesthesis, microperformativity, performative epistemology, art

If we consider (very generally) one of the ultimate goals of aesthetics to be an investigation of the ways to make sense of the world, it becomes clear that applying aesthetic approach can be relevant for discussing all kinds of relations within the world, including those

not belonging to the human realm. Critical importance of relations between an individual entity (be it a living organism, or a machine) and its environment lies at the heart of the ecological turn in today's humanities. Yet, its most prominent roots go back not so much to an aesthetic tradition, but rather to cybernetics and philosophy of technology. Whereas the cybernetic paradigm saw feedback as a basis for regulation and control of a system according to a certain goal, such teleological approach cracks down in face of the stronger agential potential, recognized in technical objects by thinkers like Gilbert Simondon[1] (and later reworked in other intellectual traditions, e.g. in actor-network theory by Bruno Latour). Relational onto-epistemologies inspire a fundamental reconsideration of the concept of ecology in general, calling for an "ecology without nature" (Timothy Morton), or what Erich Hörl, following Félix Guattari, theorizes as "general ecology".[2] The horizon of the "technoecological condition" is closely related to a shift in thinking about subjectivity itself not as an entity, but as heterogenic and transversal. There is no univocal causality between a subjective will and an environment in which it operates, rather the subject should be seen as composed of multiple interconnected forces with the potential for transformation and transmutation. This poses a productive challenge to contemporary aesthetics.

Within the today's influential posthumanist paradigm, a nonhuman agency is attributed to both natural beings and machines. Comparative discussion of the natural and technological forms of cognition inevitably brings up an aesthetic dimension as one of the key elements: what enables the contact of a system with an external environment in the first place? What are the kinds of sensory and interpretative capabilities inherent to these systems? Putting sensing and sensation at the center of a functional potential of a system and treating them as defining factors of agential power implies that they provide a ground for further processing of received information. But besides establishing an encounter, i.e. making it a 'fact,' they facilitate a qualitative relation, detecting the characteristics of the sensed object or environment, and

[1] Simondon described unfolding of the potential of the technical objects in terms of their "individuation". See Gilbert Simondon, "The Genesis of the Individual," trans. M. Cohen, S. Kwinter, in *Incorporations*, ed. Jonathan Crary, Sanford Kwinter (New York, NY: Zone, 1992), 297-319. Georges Canguilhem' idea of "unreliable environment" is another relevant reference. A living being lives its life through a continuous "discussion or explanation with an environment where there are leaks, holes, escapes and unexpected resistances." Georges Canguilhem, *The Normal and the Pathological*, trans. Carolyn R. Fawcett (New York: Zone Books, 1999), 198.

[2] Erich Hörl, "Introduction to General Ecology: The Ecologization of Thinking," trans. Nils F. Schott, in *General Ecology: The New Ecological Paradigm*, ed. Erich Hörl and James Burton (London: Bloomsbury Academic, 2017), 1–74.

eventually generating a 'judgment' about it.[3] As the field of biosemiotics has been demonstrating (starting from the writings by Jakob von Uexküll[4]), abilities of interpretation, learning, memory, as well as making decisions and acting can be manifested already at the cellular level.[5] But analogous processes can be observed as happening at the level of matter organized as sensing technologies, i.e. electronic sensors for detecting sound, spatial proximity, temperature, and other signals through registering electronic waves activity.[6]

Luciana Parisi, in her account of what she names the "technoecologies of sensation," describes sensation as a fixation of a moment of change of state, as "the arrest or snapshots of perpetual motion, the residual rhythm traversing the sensing-thinking regions of a body."[7] She emphasizes a non-subjective and even pre-perceptional level of sensation that allows her to compare it with the concept of the machinic, developed by Deleuze and Guattari and which implies the logic of operations (social, economic, but also biological) that is self-sustained and yet cannot be ascribed to any individual force or will. The processes of differentiation inherent in sensing can be described neither by means of signification, nor – to put it in Guattari's words – as "circumscribed within the logic of discursive sets."[8] Sensations are rather events, and their significance lies in their operational potential. Namely, their 'acting' creates change – effects and affects.

Active power of sensing operations can also be described in terms of performative epistemology, a term that philosopher and sociologist of science Andrew Pickering used in

[3] Making distinction between perception and sensation, Brian Massumi writes: "Sensation pertains to the dimension of passage, or the continuity of immediate experience (and thus to a direct registering of potential). ... Perception is exoreferential (extensive); sensation is endoreferential or self-referential (intensive)." Brian Massumi, *Parables of the Virtual* (Cambridge, MA: MIT Press, 2002), 258-259.

[4] According to Uexkül, "life can only be understood when one has acknowledged the importance of meaning", since "behaviors are not mere movements or tropisms, but consist of perception (*Merken*) and operation (*Wirken*), they are not mechanically regulated, but meaningfully organized." Jakob von Uexküll, "The Theory of Meaning," *Semiotica* 42, 1(1982), 26.

[5] See also Jussi Parikka, *Insect Media: An Archaeology of Animals and Technology* (Minneapolis: University of Minnesota Press, 2010); Eugene Thacker, *Biomedia* (Minneapolis, London: University of Minnesota Press, 2004).

[6] An extension of human sensorium though a global network of environmental sensors and its impact on our environmental knowledge has been described in Jennifer Gabrys, *Program Earth: Environmental Sensing Technology and the Making of a Computational Planet* (Minneapolis/London: University of Minnesota Press, 2016), as well as in Birgit Schneider, "Entangled Trees and Arboreal Networks of Sensitive Environments," *Zeitschrift für Medien- und Kulturforschung* 9, 1 (2018): 107-126.

[7] Luciana Parisi, "Technoecologies of Sensation," in *Deleuze/Guattari & Ecology*, ed. Bernd Herzogenrath (New York, NY: Palgrave Macmillan, 2009), 190. See also Luciana Parisi, interviewed by Hörl, "Was heißt Medienästhetik?", trans. Reiner Ansen and Erich Hörl, *Zeitschrift für Medienwissenschaft* 8 (2013), 35-51.

[8] Felix Guattari, *Chaosmosis: An Ethico-Aesthetic Paradigm*, trans. Paul Bains and Julian Pefanis (Sydney: Power Publications, 1995), 92.

regard to cybernetic thinking, implying that knowledge is produced in the act. He refers, for instance, to the "performative" conception of the brain within cybernetics – a brain, whose main function is adaptive.[9] Furthermore, according to him, we can speak of a performative ontology, introduced by cybernetics, which also became one of the key dividing lines between modern and non-modern paradigms in thinking about the world.

"Sense act", thus, builds on already well established tradition of shifting the emphasis from the 'what' (is sensed) to the very fact of sensing taking place. One of the inspirations for a possible theory of sense acts is of course John Austin's conception of "speech acts," an idea that spoken statements, such as placing a bet or announcement of a marriage, create facts (including in a legal sense). But the power of performativity, an "act" generating an autonomous effect, has been extended also to other phenomena. Theories of "image act" (*Bildakt*) developed within German art history (or more precisely *Bildwissenschaft*) instigated research into operativity of an image in fields, such as design or science studies.[10] In philosophy, a theory of "acts of thinking" by Aloisia Moser rethinks Immanuel Kant's view on the formation of thought as a dynamic process, where what matters is pragmatic and not semantic considerations, namely that a thought is thought, and not what kind of a thought it is.[11]

The problem with the concept of sense is always its double meaning as a faculty of perception of the external world (sight, hearing, etc.) and a "comprehensible rationale", a meaning.[12] Sensing as an act places significance on the sensing subject and the apparatus that enables it in the first place. It is not anymore something abstract, but an actualized potential, an event within a certain multiversely defined situation. Just like *langue* (language) and *parole* (speaking), *parole* needs an individual who would speak, whereas *langue* is a system of language in general, rules applied for all.

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[9] "We might thus think of cybernetics as staging for us a *performative epistemology*, directly engaged with its performative ontology – a vision of knowledge as *part of* performance rather than as an external controller of it." Andrew Pickering, *The Cybernetic Brain. Sketches of Another Future* (Chicago: University of Chicago Press, 2010), 25. One of the examples is a "black box" of the brain as a performative image, described in Ross Ashby's *An Introduction to Cybernetics* (1956).

[10] See Horst Bredekamp, *Theorie des Bildacts* (Berlin: Suhrkamp Verlag, 2010); Gottfried Boehm, *Wie Bilder Sinn erzeugen* (Berlin: Berlin University Press, 2007); as well as Sybille Kraemer, "Operative Bildlichkeit. Von der 'Grammatologie' zu einer 'Diagrammatologie'? Reflexionen über erkennendes Sehen," in *Logik des Bildlichen. Zur Kritik der ikonischen Vernunft*, ed. Martina Hessler and Dieter Mersch (Bielefeld: transcript 2009), 94-123.

[11] Aloisia Moser, *Acts of Thinking*. *Kant and Wittgenstein on the Performativity of Thought*. Forthcoming in 2020.

[12] I leave aside here the intricate relations between the classical five senses and the modalities of sensory life described for instance by Michel Serres. See Michel Serres, *The Five Senses: A Philosophy of Mingled Bodies* (London: Bloomsbury Academics, 2016).

What happens then in case of a non-human sensing? Would the intensive and affective aspects still be relevant? Or does the framework of a post- or nonsignifying semiotics dictate its own criteria and its own "sense-making"? A way to answer these questions could perhaps be through looking at a sense act in terms of its effects, which also implies the aspect of translation inherent in it. Indeed, sensing means registering the information from the outside through a medium of the receiving end, which in itself is not a passive structure. The incoming signal may trigger a whole chain of further automatic reactions, and this is exactly where and when a sense as meaning will be enacted. In other words, what matters is that a *particular* succession or constellation of events is set off – be it a neuronal firing in human brain, or biochemical reactions at cellular levels in other living organisms, or transmission of signals through electrical circuits in man-built machines.

A project by a Russian art-group Where Dogs Run *Collector* (2015) exemplifies some of these processes. A 'collector' is a poetic image of a symbiosis: a man with an electromechanical street-organ, walking the city streets and country landscapes and playing his instrument, like a medieval minstrel. His 'stories' are not the pre-inscribed melodies, but characteristics of the atmosphere of a particular site – a city square, a street, a factory, etc. – turned into sounds. The "organ" device collects air samples and with the help of photo-ionization detector and other sensors performs an analysis of individual chemical elements, dividing them according to the speed of their movement. This analysis creates a pattern of 'smell' that is further used to generate sound. The energy needed to heat the air samples to be analyzed and to play the sounds comes from rotation of the handle of the organ, just like in the classical mechanical hand-organ. The device can store the evanescent and generally unrepeatable air patterns and 'play' them at any other time and location, thus, archiving and transmitting the atmospheric situations. Neither just a person, nor a machine, the collector carries this environmental knowledge wherever he goes, sharing it or simply reflecting back into the air its current state. The performative recording and translating of the air into sounds took place in industrial areas of the Ural region of Russia, where pollution levels offer unique chemical palettes. Most of the elements escape recognition by the human sensorium (they cannot be either seen or smelled), and although the collector's "songs" are not numbered data, they offer an alternative to scientific measurements, using similar instruments but another type of output – a kind that stresses the *fact*, the occurrence of the situation itself, and not what it *may* mean (e.g. for human health, etc.).

Another artistic project, *One Tree ID – How to Become a Tree for Another Tree* by Agnes Meyer-Brandis, highlights the problem of meaning-making by putting a human in communication with a tree on terms of communicational capacities of a tree. Whereas the air quality is simply "there" and can "mean" potentially different things for different inhabitants and occupiers of the environment, here the semiotic frame is narrowed down to a concrete biological system and one of its communicational channels – the information of tree-emitted aerosols. *One Tree ID* is defined by the artist as "a biopoetic and biochemical odour communication installation and experiment between an individual tree and humans."[13] With a help of scientists and professional perfumers, aerosols, or volatile organic compounds, are collected from the needles, stem and roots of a cedar tree. On their basis a perfume is created that can be then applied on a human body. The premise is that a person wearing this smell will be perceived by other trees as having characteristics of that particular tree, and that can enable a type of information exchange between them. A human "camouflaging" him/herself into a tree in order to appeal to a sensory capacity of another specie is a tactic, which is media aesthetic and media ecological in its nature. The medium here is the tree-based perfume and its 'multiversality' serves to the artist as a ground for the performative gesture of communication through camouflage. Interestingly, the smells of conifers not only are sensible by a human, but also stimulate particular cultural associations and are profoundly affective even on the biological level. In our imagination, they bring us to the forest, calm us down and remind of our own biological rootedness. So perhaps, a dialog with a tree through its smell is not only a metaphor.

These examples show how the act of sensing is determined by the sensing apparatus and involves a position: the "who" senses. It is still hard to avoid completely the notion of "subjectivity", but the point is to open it up to other scales and to consider other, alternative to human forms of cognition. Both projects involve chemical analysis, and while *Collector* is deliberately explorative and creates its archive or plays its sounds for no one in particular, *One Tree ID* brings to the fore the issue of smells as signifying an identity of a species, addressed to be sensed by another individual specie. In this way or another, both projects appeal to non-conscious levels of perceptions: e.g. the smells of trees or other chemicals in the air may affect us in the ways we cannot fully realize and control.

[13] Agnes Meyer-Brandis, *One Tree ID* website, http://www.blubblubb.net/OneTreeID/index.html. Accessed October 10, 2019.

The human sensorium is still not fully scientifically explored, but there are already many ways in which technology can powerfully interfere with emotional life, affecting predispositions and judgments about reality. Among some of the developments that exemplify particularly radical horizons of possible transformations are for instance synthetic biology and gene-editing. It is well-known how moods and mental states can be susceptible to manipulation through substances: from alcohol and caffeine to antidepressants and drugs regulating the hormonal system. The sense reactions happen at the biochemical level, through cellular membranes and molecular structures that allow to communicate signals related to behavioral activity, but also potentially to what is traditionally known as aesthetic judgment.

One of the most thought-provoking experiments that reflect on the implications of pharmaceutical technologies, as well as personalized medicine and genetic modification, have been developed within the field of speculative design. *Red Silk of Fate – Tamaki's Crush* (2016) by Sputniko! (Hiromi Ozaki) is a music video about Tamaki, a young genetic engineer who wants to win the love of her lab colleague. To do this, she comes up with an idea based on an ancient myth, turned in her hands into scientific reality – a "red string of fate". According to East Asian mythology, two people destined for each other are connected by an invisible red string, and this is exactly what Tamaki creates in the film. In support of the story, Sputniko! made the intriguing artifact in reality: in collaboration with scientists from Japan's NIAS (National Institute of Agrobiological Sciences), specifically for the spinning of the mythical thread, they engineered a type of silkworm by inserting genes that produce oxytocin, a 'love' and social bonding hormone, as well as the genes of a red-glowing coral, into silkworm eggs.

This project provokingly asks: what and how governs modifications in the psyche? What are the zones of control? What is responsible for the interpretative part of sensing when conscious will is put completely aside and instead, cellular receptors are stimulated directly through biochemical intervention? Can our feelings indeed be reduced to fluctuations of the level of hormones or neurotransmitters? Furthermore, do we want to accept this approach and thus open opportunity for further manipulation of internal states by external forces, such as medical corporations and other institutions of biopolitical power? A "red string of fate" becomes a performance of a form of a 'code', which happens here within the very living matter, at the bio-chemical level. Yet (at least according to the concept) it could produce very tangible effects –

changes in emotions, determining (just like psychotropic medication or other drugs) predispositions and choices.

What Sputniko! does is she *plays* with the techno-scientific promises by (wittily and humorously) exercising them in a fictional scenario. It encourages to be open to what is beyond the habitual, invites to be surprised and provoked, to observe (what is) and to imagine (what is not yet). In this case, by witnessing what an electrifying turmoil can be caused by summoning the invisible natural powers, we are also forcefully pointed at its source – a love craving. Science becomes a way to channel it, but the effect is not what was envisioned (Tamaki, like a magnet, attracts everything alive on her way). The moral of the story is that perhaps instead of trying to interfere with the affects and what is behind them, it is better to embrace them as they are and to learn to collaborate with them, that is, to somehow attune to the microperformances of sensation and judgment that happen at the level of the very bio-matter.

All three projects – *Collector* by Where Dogs Run, *One Tree ID* by Agnes Meyer-Brandis, and Sputniko!'s *Red Silk of Fate* – present avenues for making sensible communicational processes that challenge human perceptory abilities. In the first and last cases, the ability to attribute any meaning to sensations is completely bypassed, while Meyer-Brandis deliberately plays with the recognizability of the extracted "tree IDs" by humans. Something seemingly alien and incompatible discovers its way to be perceived by another sensory apparatus. But as discussed above, the procedure of sensing is already fundamentally tied with the operation of differentiation. It can be said that the onto-epistemic value of a sense act lies exactly in this capacity to recognize the diversity of communicational channels, through which living and non-living entities at different scales relate to each other. The meanings may differ dramatically, but acknowledging the fact of difference is the first step to further understanding the ecological complexity of forms of being and their relations. Experiencing this diversity aesthetically, through sense acts happening at multiple levels – molecular and cellular, as well as at the levels of self-reflection and judgment, opens up another order of connectedness and exchange between forms of matter and what for them may be of matter, i.e. may form a sense/ meaning. Occurring within diverse types of sensorium and diverse mediatic structures, aesthetic operations of sensing and interpreting go beyond the individual capacities and material determinations of their processing units. They should not be reduced to mere signal exchanges as they involve changes of state that challenge the conjectured certainty of the very identity of actualizing them entities (be it an assemblage of photo-ionization sensors, like the street-organ of Where Dogs Run, or a human wishing to *feel* like a tree, or a confused consumer of biotechnological inventions – the examples continue).

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