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INSECTS AND CANARIES: medianatures and aesthetics of the invisible

Jussi Parikka^a

^a Winchester School of Art, University of Southampton, Park Avenue, Winchester, Hants, SO23 8DL, UK

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I will end with an emphasis on the invisible, but start with disappearance. The two ends connect in this text, which concerns the intertwining of the ecological with the aesthetic; not an aesthetics *of* nature, or ecology, or even ecocrisis, but how such are themselves perceptible through an intertwining with technological epistemologies. Indeed, this deals with capacities of bodies stretched across various ecologies in the manner Guattari talked about, and what recent techno-aesthetic theory concerning sensation has been arguing (Parisi). In short, what such a stance is saying is that the capacities of human and animal bodies cannot be detached from considerations of their technological framings, which in this text is a question of ecology – a feedback loop of various levels and scales. In this sense, this text focuses on how to think the visual culture of disappearance – more closely, disappearance of animals.

Hence, by way of a preface, let's start with Ernst Jünger's novel *The Glass Bees* from 1957 – a science fiction story of an automata producer and industrialist Zapparoni and his miniature robotics that, according to Bruce Sterling's introduction to the book, resemble more the high-tech creatures of recent years of MIT design laboratories than the clunky robotics of typical 1950s science fiction. Indeed, Sterling's characterization echoes the German media theorist Friedrich Kittler, when the former writes of *The Glass Bees* and Jünger of how he "understands that technology is pursued not to accelerate progress but to intensify power" (x). If Jünger's earlier novel *The Storm of Steel* became a key reference point for a certain brand of (German) media theory that

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emphasized the decisive role that war plays in technological modernity, and the idea of "total mobilization" as a form of tuning of the national economies, visual culture and personal readiness for war, then what kind of alternative "master narrative" can we find in this slightly different kind of Jünger novel that focuses on microdesign of robotic worlds through animals? This addresses a different kind of readiness, and critique of progress, and still an intertwining of animal energies with technology.

Without going into a fully fledged explication of the narrative – and the protagonist Captain Richard's work application and introduction to Zapparoni's automata factory of entertainment devices – we get a good sense of the slightly

different emphasis than in *Storm of Steel*. Through Captain Richard's personal memories and meditations of war – and the coming high-tech war – which are familiar Jünger themes, *The Glass Bees* addresses animal-like automata and the immersive entertainment worlds of such devices that are becoming embedded as part of everyday life. The novel, however, becomes an observation of *obsolescence* – not only in the sense that we think of media device obsolescence in the culture of the “new” media but also replacement of another sort; for the protagonist, this observation becomes clear through his own personal history of war:

Of course, differences existed between military service under Henry IV, Louis XIII, or Louis XIV, but one always served on horseback. Today the magnificent creatures were doomed. They had disappeared from the fields and streets, from the villages and towns, and for years they had not been seen in combat. Everywhere they had been replaced by automatons. (Jünger 29)

The glass bees are one form of such displacement, replacement and introduction of automation. Described as a mix of a hive and “an automatic telephone exchange,” Zapparoni's miniature bee workers represent not only a new form of automatized pseudo-animal labour but a whole system of organization – like a switchboard structure – which automates the carrying of nectar to the hive. As such, as automated independent robots they fulfil Zapparoni's dream of wireless communication networks of semi-autonomous agents (hence, no wonder that Christoph Rosol included a reference to Jünger's novel in his media archaeology of the RFID), but also, for the worried observer, Captain Richard summons the extinction of the organic bee – work and love, in a much-too-perfect balance:

Bees are not just workers in a honey factory. Ignoring their self-sufficiency for a moment, their work – far beyond its tangible utility – plays an important part in the cosmic plan. As messengers of love, their duty is to pollinate, to fertilize the flowers. But Zapparoni's glass collectives, as far as I could see,

ruthlessly sucked out the flowers and ravished them. Wherever they crowded out the old colonies, a bad harvest, a failure of crops, and ultimately a desert were bound to follow. After a series of extensive raids, there would no longer be flowers or honey, and the true bees would become extinct in the way of whales and horses. (Jünger 135)

Extinction, replacement, disappearance, innovation coupled to obsolescence are themes that stand out from Jünger's novel, and act also as a trailer to this paper.

Jünger's science fiction world touches on this displacing of the animal as part of the logic of automation and relates to what I have called “insect media”: the non-human qualities and models for technology that animal worlds have offered from nineteenth-century entomological discourse to more recent software culture (Parikka, *Insect Media*). In addition, *The Glass Bees* nods towards the double-bind of modernity in terms of technological obsolescence: the paradox of technological society being that it not only produces technology but also gets rid of it at an increasing pace, as well as getting rid of and modulating the organic as part of that process. It also produces obsolescence and non-use. In such a context of animals and technology, and insect media, we can refer to this as an anti-McLuhan take on media history where technology is not modelled on the human being but has a more complex entanglement with a variety of animal bodies and nature. The approach might differ slightly from the emphasis that Friedrich Kittler suggested in his own anti-McLuhan reminder that before we are able to think media as extensions of man they themselves include a range of other, very non-human processes anyway. Into this mix I want to throw in animals and the idea of how animal bodies are themselves mediatic, and to be approached as aesthetic and material-epistemological figures in order to understand bodies stretched across various differing ecologies.

Indeed, we can claim that there is a wider mobilization of animals and natural resources as part of technological modernity and its forms of perception, related to political

economy of media (for instance, electronic waste as one central form of pollution) as well. Also emblematic of the discourse of the posthuman, we are increasingly forced to think of *worlds without the human* – both for ethico-aesthetic and for empirical reasons. Guattari has been the thinker perhaps most contributing to the double notion of ethics combined essentially with new aesthetic paradigms, and the empirical refers here to a possible future that, according to various scientific modelizations, might be true; a world without human life, and various forms of animal life, if our climate change predictions are accurate (see Chun).

Without going into the detail of the various entanglements in which simulations concerning the future of climate change are impacting on the epistemology of the crisis, we can observe a parallel history concerning technology and animals. One way to make sense of this is to take up Akira Mizuta Lippit's argument concerning modernity as intertwining trajectories of animals and technology – where the gradual emergence of technical media during the nineteenth century was paralleled by a specific attitude (and practices) concerning animals. The disappearance of animals from urban cultures of technical media was paralleled by the *appearance* of animals in various discourses, from media (early cinematic discourses being a good example) to modern subjectivity (e.g., psychoanalysis). Disney's mice can be seen as only part of the technological eradication of rodents from urbanity, and the appearance of various animals in scientific films, literature discourses, and animations is part of various measures to control the animal as a production force – and disturbance. The new regimes of media – which were to a large extent used as tools for scientific measurement such as chronophotography and the various measuring instruments of physiology and experimental psychology labs – were ones that tapped into the speed and slowness of animal bodies. Here, we should pay attention to a genealogical understanding of media that does not start from a current bit-too-easy conflation of “media” with entertainment media, but acknowledges that our mediatic devices should be approached

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through their archaeologies as scientific measurement devices (see Ernst). The emerging scientific epistemology concerning animal life was feeding into aesthetics in the wider media and popular culture sense; the emerging media technologies such as screen media were instrumental both as producers and mediators of the animal as a specific scientific question.

Hence, this intertwining of animals and technology is not only metaphorical. Instead, the disappearance of the animal is emblematic, measuring impacts and affects of emergence of technicality and, in this case, visibility and invisibility. Indeed, in various contemporary visual and scientific practices, the animal is not only an object of concern but is itself a surface of registration, storage media and a signal of the processes concerning pollution and waste. We literally seem to learn through the “case studies” of animals, whether in news media (as the case of bumblebee disappearance, to which we will return below), scientific data (the discourse of the sixth mass extinction of biodiversity) or other media, including fiction (Coupland) and documentaries (*Vanishing of the Bees*, 2009).

Hence, in order for us to account for this idea of “animal media” as an implicit ethico-aesthetic and epistemological figure, we need to address the entanglement of technical media, animal bodies, and discourses of ecological crisis and waste. Hence the use of the title “insects and canaries” refers to the use of (canary) birds in mining practices as well as the gas warfare of the First World War to detect the presence of dangerous air pollution. Hence, it was indeed not only in mines but also in trench warfare where such ideas were used to detect the impending danger to human lungs as well. In an early test, George A. Burrell of the United States Bureau of Mines conducted tests on various animals, including himself, exposed to carbon monoxide. It took a minute for the canaries to start asphyxiating, eleven minutes for pigeons, twenty minutes for himself, while chickens took no notice (Harrington 259). The canary became metaphoric as a way to transpose invisible, deadly toxins, which in this case I transpose to another layer: to investigate

notions of disappearance, obsolescence, the ecological crisis and animal organisms in relation to technological epistemologies. In this case, animals such as bees are early-warning systems (with a nod towards the earlier use of the term in media theory by Marshall McLuhan), epistemological and aesthetic figures of a different kind that work as forms of animal aesthetics. Besides the concept there is another link too: the development of chemicals for gas warfare led to a massive redeployment of such scientific data and resources to pesticide production. This, for its part, has been suspected as one key cause of the bee colony disorders.

Obviously we have had a fair number of theoretical accounts that establish links between technical media culture and animal energies and intensities from cybernetics to Donna Haraway, to such materialist feminists as Rosi Braidotti and Elizabeth Grosz. The various perspectives have paved the way for the so-called wave of “new materialist” thought.¹ A thorough discussion of the various meanings of new materialism remains outside the scope of this text. Instead, I want to flag the usefulness of such projects that aim to think the entwining materiality of temporal bodies – of animal and human – as a question of the ethico-aesthetic. Indeed, of the recent discussions I believe it is Braidotti who has come closest to what I want to argue – that the animal energies, intensities, and productive forces, which are in no way limited to the human, are actually the motor, the energy source, for so much of technological modernity and capitalism. Of course, this energetic perspective that aims to develop a trans-species ethics, outside an anthropocentric prejudice, is one that also accounts for what it most often means to mobilize animals as part of technological capitalism. Animals are living matter – and “material for scientific experiments. They are manipulated, mistreated, tortured and genetically recombined in ways that are productive for our bio-technological agriculture, the cosmetics industry, drugs and pharmaceutical industries, and other sectors of the economy” (Braidotti 98). Related to this, we are forced to observe the necessary entropic quality inherent

in such a mobilization of animal bodies; that they embody and express a variety of temporalities in which their material potentials are being consumed. Indeed, what is discussed in terms of technological obsolescence is a matter of forces of production and consumption more widely too: I am referring here to the exhaustion of energies of living matter, from people (labour) to animals and natural resources. Much of this logic was well summarized in the idea of planned obsolescence introduced in the midst of the Great Depression of the 1920s and 1930s: that products and devices should be legally declared “dead” after a certain period of use, and hence be replaced through legal force. This did not make it onto the statute books but, as we know, it did as part of the mode of production of devices and desires of capitalist consumer culture (Hertz and Parikka). And yet we need to establish the link between technology and where technological modes of production and consumption draw their resources from, and mobilize as part of the drive for obsolescence, which indeed, as we should realize, is a matter of obsolescence of animals too.

II

Technology is one part of the wider story concerning urbanization and modernization, which play their role in what has been speculated during recent years as the new mass extinction of animal species, including insects. Insects are in this complex ecological pattern – and ecological in the manner that includes various spheres from technology to political economy to nature as well as the ecology of subjectification in the manner that Félix Guattari argued – in a crucial role because of their centrality for pollination, decomposition and soil processing (Pickrell). The process of “co-extinction” that follows from the loss of one species, piling up as a chain of extinctions, is characteristic of such ecological relations that define a milieu approach to the world: no thing without another, i.e., relations define entities, co-evolution is shadowed by co-extinction, and such processes of co-being and becoming

extend much outside the organic. Recent years of Deleuzian-inspired theory of biopolitics and art has picked up on Lynn Margulis's idea of symbiotic co-evolution as well as Bateson's ecology (through Guattari), and now we can extend such ideas of milieu-bound becomings to a grim side of "co-extinction" as well, which also addresses the ontogenetic and material sides of change. Indeed, if relations compose each other (Fuller, *Media Ecologies* 95), they might as well unfold, disperse, and recombine in some other form. This approach also recognizes the longer genealogy of ecological thinking, pre-dating Guattari. For instance, Gregory Bateson's remarks in "Pathologies of Epistemology" are right to the point in their acknowledgement of how the ecological mode of questioning has opened a broader field of consideration of what matters in terms of discourse of nature; from a hierarchical biological focus on family lineages, species, sub-species down to individuals, the ecological as argued by Bateson is where we stop for a moment to consider what exactly is the "unit of selection" (if you want to use Darwinian vocabulary): this makes us think of the couplings of genes with organisms, organisms in environments, ecosystems and if we want to consistently continue, and, as Guattari and the more recent wave of media ecology have done, we need to account for a whole host of "extra-biological" ecologies in order to avoid the epistemological error of "choosing the wrong unit" (Bateson 459) where we start our epistemological inquiry.

Guattari argued in the 1980s that to understand such forms of milieu, or ecology-bound thought, the only real option for the green movement is to extend its concept of nature and animals to include a variety of other spheres. Indeed, as a form of mixed semiotics, he was insisting on methodologies that take into account the variety of ecologies and processes that contribute to processes of subjectification, signification and a-signification. Guattari proposed three ecologies inclusive also of the psyche and the social with their particular "waste" and "pollution." What still makes Guattari's idea refreshing is how it offers a complex material epistemology, completely

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tied together with aesthetics as a way to think what could be called transversal subjectivities – the shared milieus of articulation for humans and non-humans, and what more recently philosophers such as Braidotti have developed into new forms of (Spinozian) ethics for an age of political economy and technologies of *bios/zoë* – life. To this already complex mix of various ecologies we can add media ecology as one specific field of practices, energies, epistemologies and articulations of the ethico-aesthetic (Fuller, *Media Ecologies*). Through a media ecological focus we are able to investigate how media technological energies contribute to the patterns of replacement, displacement and disappearance of animal energies, and hence hopefully avoid too-narrow "epistemological errors" (Bateson) in our investigation of the aesthetico-epistemologies of disappearance.

Indeed, one of the characteristic features of "animal extinction" is the question of visibility. Besides the obvious point about mediation in popular culture narratives, such doomsday scenarios are, of course, embedded in the larger question of measurement, validation, comparison and presentation of scientific facts so that the radical complexity of such intertwining becomes understandable. This also refers to how we constantly discover new species, which is one part in the contemporary biology of species and populations (Heise, "Lost Dogs"), and emphasizes that despite the fact that it is most probably true that we are in a catastrophic situation concerning animal and natural life, we need more complex ways to understand this situation as relational. Instead of a closed container model of ecology we need to account for natures that are more than objects for measuring visualization, and think of more ontogenetic epistemologies – ecologies as constant creative processes that are entangled with various scientific practices of knowledge production across species and populations. As Ursula Heise in her "Unnatural Ecologies" article reminds us, the conceptualizations of nature and media ecology work both ways, changing perceptions and aesthetics of understanding of nature and technology. Indeed, one crucial question that in a way echoes Lippit's point mentioned

above is how the perception of the ecological crisis since the 1960s has been paralleled by increasing media theoretical talk of media ecology (for instance Neil Postman), as if hinting that the disappearance of the natural ecology has its counterpart in technological conceptualizations. In any case, we are safe to say that the two are very much intertwined, and perhaps never were detached in the first place. In her usual perceptive manner, Wendy Hui Kyong Chun argues that the whole epistemology concerning scientific simulation is itself a question of how we relate to data, software and programming which involves a curious relation to the future: climate predictions are not untrue because they are extrapolated from a massive amount of data that speculates a possible future, and allows us a possibility to act on that one particular data epistemology – or even aesthetico-epistemology, as it involves various forms of visualization and aesthetics too as part of its software-embedded knowledge production.²

But mass extinction is not just something directly observable, and includes the difficulty of detection (Heise, “Lost Dogs”; see also Pickrell). The massive scale of climate change that involves attempts to offer a convincing epistemology by tying up pasts (data collected over decades) with futures (patterning data to offer a premediated scenario) is paralleled by the problems of detection that biologists have to face. This relates to the status of sub-disciplines in biology. Of these, molecular genetics enjoys a prominent role in defining what a species is, and the re-emergence of taxonomy, as Heise (“Lost Dogs” 55) notes. In short, we are faced with questions not just of going out there and observing a situation but also having first to address how we in the first case talk about animals, species, populations and extinction. This question ranges from disciplinary knowledge and practices to a wider set of narratives, technology and interests of knowledge (ibid.): a technologically embedded material episteme that is itself entangled (in Karen Barad’s way of using the term to avoid a Kantian correlationism) with the objects of knowledge it produces. In a situation in which we still have not even

documented many insect and other species, we are faced with the challenge of a possible mass extinction underway, but which is difficult to turn into an epistemology with, let’s say, policy impact. When dealing with populations and species, biologists are faced again with similar problems of data collection from empirical and historical sources, and translating that into modes of perception that are convincing from an aesthetic and epistemological point of view. Again, to emphasize, aesthetics refers here not to ornamentality – or even science communication – when talking of visual communication of scientific facts, but to a more fundamental role that perception plays in all this.

A widely media-reported environmental issue of recent years has been the mysterious bumblebee extinctions especially, in the United States but also worldwide – reported probably because not only of its catastrophic implications but the cuteness of the subject topic. In the same category of cuteness as pandas, puppies, penguins and dolphins, and hence suitable for gentle discourses concerning preservation, bees have been addressed as one of the most recent victims of climate change. What started as a mysterious wave of mass deaths of anything up to 60–70 per cent of the bee population in certain parts of the United States spread to become a worldwide phenomenon, the cause of which remains a mystery. Whereas estimates were of an apocalyptic scale for the bees themselves – that at this pace bumblebee species would be wiped out in a few years’ time (“Bumblebees Could Face Extinction”) – this was registered as apocalyptic on another level too: no bees, no pollination; no pollination, no crops; no crops, no human beings.

Despite media hype tailing off in recent years, in 2010 the United Nations Environment Programme released an alarming report entitled *Global Honey Bee Colony Disorders and Other Threats to Insect Pollinators* that mapped the grim picture:

Current evidence demonstrates that a sixth major extinction of biological diversity event is underway. The Earth is losing

between one and ten percent of biodiversity per decade, mostly due to habitat loss, pest invasion, pollution, over-harvesting and disease. (1)

The data collated in the report not only registered a sudden slump in the honey-producing colony numbers but also, and perhaps more worryingly, a steady decline over a longer period. Indeed, what such diagrammatizations have to deal with, in terms of the aesthetico-epistemological modes of perception, is to arrange time-scales; the past ten years of public discourse have produced and fed on narratives of the catastrophe of the sudden decline in bee populations, but the narrativization of a longer decline is still something that is not so easily or willingly picked up. Indeed, as Heise notes of various earlier forms of media ecological theorization, the notion of environment used in media theory implied “a spatial perception or experience” (“Unnatural Ecologies” 165). And yet, with the contemporary discourses and epistemological practices of climates, extinction and relations between animals and technology, we are increasingly faced with the question of how to think/visualize/narrativize time in terms of non-human scales. Indeed, to quote Heise:

Questions of scale also matter for the stories we tell about biodiversity in other ways. Human perception and cultural understanding of species loss normally focus on the orders of magnitude closest to us, whereas processes at other scales often do not make their way into the public consciousness. (“Lost Dogs 57)

This is where anthropocentric perspectives fail to grasp the mixed ecological milieu, across species, and humans and non-humans – and a more transversal ethics of perception is needed (Braidotti). One hundred crop species provide 90 per cent of human food worldwide. Of these one hundred, seventy-one are bee pollinated, showing the curious way in which our survival is very much tied together with the bees. Such narratives are of great use in rescaling issues of massive spatial and temporal scales to make sense, and hence create certain aesthetics of such a crisis too.

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Such crises participate in a longer cultural history of narrativization of nature vs. humans/modernization (Heise, “Lost Dogs”), but what I want to focus on is the entanglement with technical media, and, as promised, the relation to aesthetics. In other words, a trans-species ethics also needs to be a *transmaterial ethics*, which takes into account technologies, material epistemologies, scientific practices, aesthetic discourses concerning the entanglement of technical media and animals, etc. This does not always refer only to the established list of what we count as “media” but also such scientific technologies as DNA fingerprinting too; in this curious case of the bees, such techniques were used to map information concerning colonies and their relations, and the suggested causes most often took into account pollution and other modernization-related effects, showing the further entanglement of the bee question in the wider technological modernity. This is where I want to nod towards the title of the text again, namely “insects and canaries.” The use of pesticides evinces the co-evolving history of war and control of nature, as Russell (2) argues: the entanglement of techno-scientific development as well as organizational/industry arrangements between military and business, supporting the mobilization of early gas warfare into insect pesticides, and back to human warfare. Identification of the use of certain pesticides as contributing to the recent bee colony disorders is one of the more convincing causes, and also presents this curious link back to discourses of ecocrisis – across histories of war, animals, and techno-scientific developments.

As to the various other causes suggested, one often mentioned but that still lacks data has to do with electromagnetic radiation and the technical communication sphere of such devices. It’s not just that bees are part of media history, but also that they are themselves mediatic. Their body incorporates a crystal that contains lead, and hence is receptive to electromagnetic communications – the regime of communications that works through Hertzian vibrations. High-frequency mobile communications, including, for instance, RFID (Radio Frequency

Identification Devices) have a level of resonance with the communication of the bees – the famous bee dance, discussed, for instance, by Karl von Frisch in the middle of the twentieth century (see Parikka, *Insect Media* 121–44) – that takes place at frequencies of 200 Hz and 300 Hz; GSM (Global System for Mobile Communications), for example, has a very different carrier frequency (800–2200 MHz) but the pulse frequency fits exactly into the slot – 217 Hz.

I am less interested here in the question of whether or not this link is the true cause; whether the little world of communication, the anti-McLuhan global village of insects, is really being disturbed by the parasitical human wireless communications. Instead, I am fascinated by the sheer fact that this connection is being suggested – not only in this context, of course, but also in the various studies that link that pulse frequency to disturbances in the brain waves of people. The fact that people are making these links and exactly through a theme of pollution (of the electromagnetic spectrum) is of significance in terms of understanding continuums between nature and culture, or, as I have called it recently, *medianatures* (Parikka, *Medianatures*); the inherent link that mediatic regimes and high-tech cultures, by necessity, have to nature, the animals, and materiality of such regimes, also through waste and pollution. It is one way to investigate the notion of media ecology, as well as the mediatisation/aesthetics of “natural” ecology. Indeed, this demonstrates the further infiltration of technology in the epistemology and discourse concerning animals and mass extinction, part of the wider debates and research concerning our large-scale ecocrisis. Such links elaborate on the need to develop new methodologies to track the continuum between animals and humans, technology and ecology, political economy to technology, aesthetics to ecocrisis.

Indeed, the curious question as to the scale and causes of a variety of disturbances in animal and “natural” life is constantly embedded in the frameworks of knowledge needed to elaborate the *not immediately perceptible*. What has been a constant theme in

modern technological aesthetics – the intertwining of animal forms of perception and technological forms of perception both as non-human worlds – is now also something that can help us think the various regimes of knowledge concerning the current ecocrisis, disappearance and obsolescence. Indeed, again in the manner that Chun argues in her “Crisis, Crisis, Crisis” article concerning the epistemology of climate change and technological simulations, and in the manner of ongoing modern curiosity in terms of the microworlds (or just alternative worlds) of animals (why they communicate, sense, perceive so differently), we are confronted with the need to think through the animal and the non-human. In the context of the ecocrisis and scientific knowledge, we are similarly engaged in this double bind of animal worlds of perception, and the radically different aesthetics of animals, as well as the aesthetics and modes of perception, afforded by complex technological forms – for instance the Geophysical Fluid Dynamics Laboratory (Chun 107).

In this sense, Jünger’s “glass bees” are quite an apt literary example that addresses the disappearance of bees; the double bind of technological modernity as part of animal worlds is not, however, only a theme of obsolescence understood through the military metaphors of an arms race (even chemical), and the changing face of the technological-scientific army, but the wider media sphere. This point becomes evident when analysing the material constitution of our screen technologies and their e-waste load, as Sean Cubitt has been doing, as well as through an analysis of the aesthetics of the animal – both about, but also stemming from, the animal. The media and the natural ecologies are also entangled on another level besides that of the metaphor and narrative.

III

As a way of investigating the link between media, animals, bees, extinction and aesthetics I want to turn to artistic methodologies. Indeed, an increasing amount of artistic work has taken up the posthuman question. There

has been a wide range of responses to the “question of the animal” (Wolfe) in the contemporary art sphere, picking up Jacques Derrida’s writings concerning the self and the non-human animal (the famous example of the cat and Derrida’s nude body). I want to use this aesthetic perspective to elaborate one further angle to the aesthetico-epistemology of the knowledge and disappearance of animals. In this context, I am addressing Lenore Malen’s work and especially her 2009–10 piece *The Animal That I Am*. Through a three-screen video installation, it articulates various aspects of the Colony Collapse Disorder discussed briefly above. In Malen’s video installation this is the case from the point of view of beekeepers, but also raising various aesthetico-ethical themes concerning the relationship between bees and human cultures. As such, it is emblematic of the technical media and artistic media responses to such developments as the mass extinction of species, and articulates, in its own way, the double bind of technology – including screen media – and disappearance of the animal.

Actually more interesting than the narrative of beekeepers about the universal harmony of the insect world – similar tropes were used at various times in history, even during Germany’s 1930s National Socialism when Maya the Bee was the ideal Nazi supporter due to her loyalty

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– are the sounds, rhythms and vibrations that Malen introduces as audiovisual elements. The installation surrounds you, through its enveloping soundscapes and its compound images. As such an audiovisual ecology *The Animal That I Am* is an implicit suggestion towards a slight variation: the *Animal Media That I Am*. Modulations of perception through media technologies share much with the animal worlds, and the event of cohabitation that the piece tries to offer is one where we are invited to hear, sense, and tap to the rhythmic vibrations – the Hertzian world – of insects. As such, it opens to a slightly more radical non-human stance when you close your eyes and embed yourself in a rhythmic sonic ecology/epistemology.

Also, the three screens (see Fig. 1) of *The Animal That I Am* are rhythmic elements that deterritorialize our vision. A slowly progressing multiplication of viewpoints is the becoming-animal of perception that the installation aims to deliver. The immersive space is also one of composed fragmentation into the compound vision of insects. Slow disorientation is one tactic of this mode of becoming; it points both to the world of insects and to the media in which we are immersed. The early avant-garde connection between the technical vision machine and the insect compound machine – in the words of Jean Epstein, “the thousand



Fig. 1. From Lenore Malen’s video installation. Image reproduced by kind permission of the artist.



Fig. 2. From Lenore Malen's video installation. Image reproduced by kind permission of the artist.

faceted eyes of the insects" (115) – creates a sense of space as split; perspective is multiplied into a variation. Malen's *The Animal That I Am* is about such forms of multiplicity, but transporting themes familiar from early twentieth-century aesthetics into the contemporary context of bee disappearance. Hence, one cannot avoid asking what is the double bind implied in the installation; the theme of disappearance addressed through the video visions.

Lenore Malen's *The Animal That I Am* intertwines the various histories, aesthetics, and idealizations of the bee community as well as the bee's relations with beekeepers. Donna Haraway's term for this – companion species – comes to mind, but not without friction when you ask how one establishes relations with such insect forms of life as bees. As flagged above, our relation to insects is reflected in much more than the narrative aspect of Malen's work. The immersive environment of the installation envelops the spectator in triggering ways. The clips that Malen uses are mini-thoughts, mini-brains, which are brought together with her digital software tools; the clips are memes that Malen excavates from online archives and audiovisual repositories, and composes into a three-channel envelope. *The Animal That I Am* poses the question:

can insects be our companion species? This is paradoxical in light of Derrida's *The Animal That Therefore I Am*, to which Malen's title refers. Derrida starts with the gaze of the animal – his cat, to be exact, lazily gazing at Derrida's naked body. But catching the insect's compound eyes is more difficult. For Malen, Derrida's essay functions as a critique of subjectivity but we need to account for further levels on which the question of aesthetics and perception features in our relation to animals and ecologies. Indeed, such key post-human debates in philosophy have been addressing the co-constituting nature of watching/being watched as a cross-species mode of subjectification for the human and its relation to the non-human. As a further question, we need to ask: what forms of aesthetics and "watching" do we need to carve out in order to understand the other scales of ecology in which we are embedded, being co-constituted not only by cats and dogs but also by complex ecologies in which we co-live, and might also co-extinguish? Such speculative, philosophical and aesthetic questions might give insights into a more complex epistemology of technological aesthetics too. This is exactly why we need to account for the wider framework in which the ecological is given to us, as technical media,

and ask how this link of technological, material epistemology is guiding a specific way of thinking insects too as media. The disappearing insect becomes a form of transmission as well as signal of wider ecological connections and chains of disappearances, in a manner in which Douglas Coupland continued this line of thought in his fiction novel *Generation A*: after the near future disappearance of bees, five people in different parts of the world got stung by a bee, and hence are themselves suddenly transmitters, signals, or at least some kind of condensation point for a whole range of measures of scientific concern; what is it in these spatially dispersed people's organisms that attracted the bee? What's more, it points as if to a whole substrate of communication between animal and human bodies, around which a whole scientific and popular cultural (the bee-stung people become media stars) world is summoned:

I began to imagine the lives of those bees that survived over the years just long enough to find us and sting us and send us their message, to tell us their story. I began to imagine small cells of them – not even hives – surviving from year to year, nesting under highway overpasses and the dusty eaves of failed shopping malls – foraging for pollen in the weeds growing alongside highways, their wings freezing and falling off in the winter and in the summers their wings rotting and leaving them crippled as they tried to keep their queens alive, finding little comfort in each other, finding solace only in the idea that their mission might one day succeed, that they would one day find us, with our strange blood [...]. (Coupland 297)

IV

To conclude, let's return to the original idea about "canaries," or how the question of the animal is itself a measure of our situation concerning technological modernity; from media technologies (including electronic waste) to urbanization, modern agriculture, pollution, and so forth. This conceptualization is tied to a much more complex ecology of things and

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relations than just an index of how good nature is destroyed by bad culture. The question concerning aesthetics and contemporary art – even visual arts – becomes more interesting when you step out of the representational sphere to tap into measurements and mediations of other sorts. More than art about animals, perhaps we should pay attention to art by and for animals – to use Matthew Fuller's ideas – where the non-human animal question is taken as an aesthetic cue (Fuller, "Art for Animals"). Fuller identifies a two-fold danger in relation to art with/about nature: that we succumb to a social constructionism or that we embrace biological positivism. And yet we need to be able to carve out the art/aesthetic in and through nature and animals in ways that involve the double movement back and forth between animality and humanity. Art for animals is one way to achieve that productive dynamics, to quote Fuller (269): "Art for animals intends to address the ecology of capacities for perceptions, sensation, thought and reflexivity of animals." What's more, this aesthetico-epistemological task is connected to wider possibilities, that

make us imagine a nature in which nature itself must be imagined, sensed and thought through. At a time when human practices are rendering the earth definitively *unheimlich* for an increasing number of species, abandoning the human as the sole user or producer of art is one perverse step towards doing so. (Ibid.)

What such a perspective raises is not a focus merely on animals but the non-human energies and potentials of/in aesthetics, including media technological aesthetics.

This experimental connection between aesthetics and imagining natures picks up on non-representational notions of art and animality that, for instance, Elizabeth Grosz (*Chaos, Territory, Art*) has emphasized more recently. Nature and animals already are aesthetic, vibrational, erotico-aesthetic milieus of rhythms; and where aesthetics happens, much beyond the human eye gets involved. In artistic practices, David Dunn's bioacoustics can be seen elaborating on similar issues, and scaling

the question of animals, nature and aesthetics to that very non-human level too.

The signalling worlds of bees dancing, insect worlds of acoustics, rhythm, and vibrations are in themselves already part of the world of eco-aesthetics, which as a regime is primary to any kind of mediations concerning the displacement (or extinction) of the animal. Indeed, I suggest that such themes should not be taken to strengthen polarities of innocent nature raped by bad technological modernity, as Ursula Heise (“Lost Dogs”) argues so much of environmentalist narrativization of extinction has done during the past two hundred years, but should help us to develop new modes of understanding the media–nature continuum as medianatures. This concept is one suggestion to think of the ecological entwinings of epistemology and aesthetics in the context of the ecocrisis, and even, perhaps, one way to address invisibility, disappearance and obsolescence. I want to argue that *disappearance* does not merely flag a theme of “extinction” but also such modalities that we need to struggle to perceive – worlds of non-human perception. This is not to downplay scientific research concerning the de facto disappearance of animals from the world, but to focus on such ecological intertwinings where aesthetics – making things visible – is something that needs to be addressed on a non-human level too. In other words, this scientific level is also dealing with the difficulties of perception, of aesthetics, of addressing so many scales of interaction. Such a multiscale mapping would necessarily be an ecological project in the manner Guattari proposed; transversal entanglement of technological epistemologies and practices, aesthetic modes of knowledge, non-human ontologies, and awareness of political economy and exhaustive global capitalist production and consumption. In a manner similar to the way in which our mediatic culture is increasingly defined by non-visible things that range from electromagnetic transmissions to algorithmic image processing as the non-visible generation of what we see, we need to extend this to ecology and natures too, embedded in aesthetic “practices.” Such art that is able to tap into the

intertwining of invisibilities and the unrepresentable complexity is the most interesting and up to date in trying to understand why and how ecocrisis is an aesthetic crisis.



notes

1 Despite the attachment to the discourse of new materialism, Grosz, for instance, has wanted to specify her approach to prefer

to understand life and matter in terms of their temporal and durational entwinements. Matter and life become, and become undone. They transform and are transformed. This is less a new kind of materialism than it is a new understanding of the forces, both material and immaterial, that direct us to the future. (*Becoming Undone* 5)

2 On climate change, data and simulations, see also Edwards.

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Jussi Parikka
Winchester School of Art
University of Southampton
Park Avenue, Winchester
Hants, SO23 8DL
UK
E-mail: j.parikka@soton.ac.uk