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Abyssal intimacies and temporalities of care: How (not) to care about deformed leaf bugs in the aftermath of Chernobyl

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Abstract

Prompted by a classroom discussion on knowledge politics in the aftermath of the Chernobyl disaster, this article offers a reading of Hugh Raffles' *Insectopedia* entry on Chernobyl. In that entry, Raffles describes how Swiss science-artist and environmental activist Cornelia Hesse-Honegger collects, studies, and paints morphologically deformed leaf bugs that she finds in the proximity of nuclear power plants. In exploring how to begin to care about beings, such as leaf bugs, this article proposes a notion of care that combines an intimate knowledge practice with an ethical relationship to more-than-human others. Jacques Derrida's notion of 'abyssal intimacy' is central to such a combination. Hesse-Honegger's research practices enact and her paintings depict an 'abyssal intimacy' that deconstructs the oppositions between concerns about human suffering and compassion for seemingly irrelevant insects and between knowledge politics and ethics. At the heart of such a careful knowledge production is a fundamental passivity, based on a shared vulnerability. An abyssal intimacy is not something we ought to recognize; rather, it issues from particular practices of care that do not identify their subjects of care in advance. Caring or becoming affected thus entails the dissociation of affection not only from the humanist subject, but also from movements in time: from direct helping action and from the assumption that advocacy necessarily means speaking for an other, usually assumed to be inferior.

Keywords

care, Cornelia Hesse-Honegger, human-animal relations, insects, intimate knowledge, temporality

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In 'our' time of geologically significant species extinction, which some scholars now refer to as the Anthropocene, it has become increasingly urgent that we interrogate human exceptionalism – the human subjugation of, and assumed superiority over, other animals and the rest of nature. 'How to get from the Anthropocene to a more ongoing quiet country?', asks Donna Haraway (2010). 'Quiet country' (p. 54), borrowed from Deborah Bird Rose (2004), involves 'the care of generations' as opposed to a 'wild country' lacking that kind of care.[1] For Haraway, 'quiet' does not mean the end of controversy; on the contrary, it implies 'staying with the trouble' (Haraway, 2010). 'Without friction, there is no heat; without heat, there is no mortal living; without mortal living, there is no hope for flourishing with each other', she remarks in a different context (Haraway, 2012: 17). This comes as no surprise when we consider that to care can mean 'to trouble oneself', which for many scholars in the so-called posthumanities also means to trouble the 'self' that grounds the (liberal) humanist subject. In postmodern philosophy, subjectivity and relations to 'self' are indissociably linked to conceptions of time. How can 'care' trouble 'our' anthropocentric time? Let us begin with some trouble in the classroom.

Trouble in the classroom: 'I don't care about bugs!'

In the spring of 2012, I was teaching an undergraduate seminar on Science and Technology Studies (STS) approaches to environmental politics at Sarah Lawrence College. In a unit on natural and unnatural disasters, I assigned two articles on the Chernobyl disaster. One of them deals exclusively with human subjects, politics, and sufferings in the aftermath of the nuclear disaster: Adriana Petryna's (2004) essay, 'Biological citizenship: The science and politics of Chernobyl-exposed populations'. The other highlights morphological deformations in insects caused by radiation exposure: Hugh Raffles' (2010) entry on Chernobyl in his book, *Insectopedia*. While both pieces deal with questions concerning the role of science and scientific expertise in the aftermath of Chernobyl, and both are written by anthropologists, they take radically different approaches to science, politics, and care.

Petryna (2004) highlights how scientific attempts to quantify radiation risks in the aftermath of Chernobyl have resulted in an appropriation and objectification of suffering and enabled the rational-technical management of groups affected by the nuclear disaster in the Ukraine as 'biological citizens'. Illness became a form of currency and 'health care' intensified the vulnerabilities of 'sufferers' from radiation exposure, while also promoting economic protection. Care was structured according to new categories of entitlement that relied on the possibility of quantifying radiation risks and exposures. In his *Insectopedia* entry on Chernobyl, Raffles (2010) introduces us to Swiss scientific illustrator, artist, and environmental activist Cornelia Hesse-Honegger, who collects, studies, and paints morphologically deformed leaf bugs that she finds in the proximity of nuclear power plants.

I did not anticipate the classroom discussion that followed the juxtaposition of these two articles. My plan to discuss different roles of science in anti-nuclear politics, different notions of expertise, different ways of rendering invisible radiation visible, and modes of activism was rendered almost completely impossible after a few of the students

expressed bafflement and even indignation with Raffles' piece. Who cares about bugs? Especially in the face of the human tragedy unfolding in the aftermath of the Chernobyl disaster and the horrific health effects (e.g. thyroid cancer) that long-term radiation exposure has on humans? Emotions ran high and arguments were fierce. One of my most outspoken and self-assured students set the tone and topic for the discussion. She affirmed that she cares about humans, and perhaps biodiversity, but not particularly about bugs. How could anybody care about deformed bugs *first*, while barely mentioning the human suffering and the health effects that long-term low-dose radiation exposure may have on humans? Furthermore, she noted, Hesse-Honegger's paintings of deformed bugs fail to motivate some sort of plan for action. Many other students agreed. I was in trouble.

A quick mini-lecture on the ecological entanglements of human and nonhuman well-beings, supported by a short video on the environmental effects of Chernobyl, finally appeased most of my students. It was not difficult for them to understand in functional ecological terms that the livelihoods of many 'earthlings' (Latour, 2010) are intimately connected. We had talked about species extinctions and the Anthropocene before; it made sense to most of the students that the well-being of other critters ultimately affects humans, but that did not help to render Raffles' account and Hesse-Honegger's engagement with insects more intelligible or sensible to them.

The students responded emotionally; functional relationships of co-dependence remained unconvincing but these relationships would not have been Raffles' point: his entry is first of all about the vulnerability of leaf bugs and not (or only second) about their utility as possible biosensors for radiation risks to humans.[2] But why would Raffles devote such a large portion of this chapter to Hesse-Honegger's painting practice, and how did it relate to scientific expertise on the one hand, and forms of artistic expressions on the other, the students were wondering. In short, what has art to do with politics and advocacy?

How should I have responded to the students? Was there a way to make them appreciate an engagement with leaf bugs without assuming a leveling of the significant differences between humans and insects? How could I get them 'interested in what it means "to care"' (Puig de la Bellacasa, 2011: 99)? I tried to explain that Raffles does not necessarily tell the reader *what to care about* (although he does that too), but rather explores *how to care*, and how care, as a mode of engagement, might be practiced in the production of evidence for low-dose radiation risks. While I was trying to draw their attention to the role of care in knowledge politics, the students wanted to talk about ethics, that is, who deserves our care and protection? This article, accordingly, is an attempt to develop a framework for a more appropriate response. Is there a way to attend simultaneously to questions of ethics in human-animal relationships and to care in knowledge production?

My reading of Raffles' chapter relates the entanglement of ethics, politics, and knowledge practices to the ethical and pedagogical problem of how to begin to care. This effort encounters a significant challenge: how do we begin to care about others of whose existence we might not even have been previously aware, let alone teach others to care? Hesse-Honegger's environmental politics – her struggle for the recognition of the impact of low, long-term doses of radiation – are tightly linked to her sympathies for the insects and her painting practices as research, as a way of gaining insight. Raffles' entry on Chernobyl thus illustrates how questions of animal ethics may issue from particular modes of engagement in knowledge production.

This article contributes to scholarship that cuts across feminist science studies, animal studies, and posthumanist ethics. Recently, more STS scholars have started exploring not only how human-animal relations are enacted in practice (e.g. Law and Lien, 2013) but also how the affective dimension of human-animal relationships challenges dominant conceptions of knowledge practices (see especially Despret, 2004; Haraway, 2008; more recently Hustak and Myers, 2012 and the contributions to Latimer and Miele, 2013). Combined with a relational ontology, the turn to affect challenges the notion of the liberal humanist subject that exists prior to and independent of any object of study.[3]

Two broad meanings of care should be distinguished; one entails the often-gendered labor of *caring for* somebody in need, and the other alludes to an affective relation, or *caring about*. Caring for somebody is usually goal-oriented, as it involves an 'effort to improve the situation of a patient' (Mol, 2008: 23). Modeled after health care practices, even if extended to nonhuman animals (Mol et al., 2010), the receiver of care is often defined through a lack of ability or autonomy. 'To care for something means being concerned about what threatens or might transform the limits that define it', argue Daniel López et al. (2010: 82). Beginning to *care about* something or someone implies an opposite move, namely the transformation of the limit that places someone outside our socially sanctioned scope of care. In institutionalized modes of caring, *caring for* somebody in need is surely possible without *caring about* somebody. That is, caring practices do not necessarily imply affection, sympathy, or compassion. Caring about someone does not have to issue from a specific 'need', nor must it translate into a specific action.

Would it be possible to begin to care without an *a priori* identification or categorization of an object of care? Can we conceive of a less anthropocentric notion of care that is attentive to indeterminacies in its practices? As Maria Puig de la Bellacasa (2011) argues, 'matters of care' are different from the (teleological) gathering of 'matters of concerns' (Latour, 2004b); they come with stakes and retain a link to justice. Like justice, care articulates a relation to the other and a mode of attention, which is also a doing that, as Jacques Derrida (1994) puts it, 'would not amount only to action and a rendering that would not come down just to restitution' (p. 27).

A notion of care that 'would not amount only to action' attends to different modes of making time (see Puig de la Bellacasa, 2015) – modes of making time that incorporate a radical passivity, an active withdrawal of the self in caring knowledge productions. At least since Kant, philosophers have identified subjectivity and the experience of self- or auto-affection with human time consciousness. For Derrida (2008: 28), there is a passivity at the heart of subjectivity which refers to mortality, a vulnerability shared among all living beings, a non-power at the heart of knowledge/power that all scientific witnessing entails (compare Roosth and Schrader, 2012).

Shifting the question from how to care well for an already-defined subject to *how do we begin to care*, not just in opposition to violent modes of calculation, caring becomes a Whiteheadian proposition. It becomes, 'an opening to become with those with whom we are not yet' (Haraway, 2008: 93), which requires attention to the temporality of care. Approaching the question of how we *begin* to care about nonhuman animals, I suggest, involves a double move: the transformation of the historical 'limit' between human and nonhuman animals and attention to a fundamental passivity in caring knowledge practices.

In exploring the question of *how to begin to care*, I offer three possible readings of how Raffles' entry on Chernobyl may solicit care, under the headings of *avoiding, staying with*, and *transforming the trouble*. In the first, I explore the possibility of feeling empathy for the leaf bugs; the subjects of care are individual bugs. The next section, 'Offended sensibilities: assumptions about what it might mean to care', draws attention to the contradictions inherent in attempts to do justice to individuals while producing representative knowledges; care manifests itself in artistic and scientific practices. Finally, I elaborate on an 'abyssal intimacy', attending to the entanglement of the knowledge practices and an ostensible subject of care, enacting an aporetic or impossible experience and leaving the 'subject' of care indeterminate. In each case, the subject of care is linked to specific configurations of time.

The students' responses were regulated by specific sensibilities, or what Jacques Rancière (2004) calls a 'distribution of the sensible', that associate care with a progressive temporality, limiting the possibility of compassion in associating it with direct helping action. The 'distribution of the sensible' refers to

> the system of *a priori* forms determining what presents itself to sense experience. It is a delimitation of spaces and times, of the visible and the invisible, of speech and noise, that simultaneously determines the place and stakes of politics as a form of experience. (Rancière, 2004: 13)

thus establishing what can be shared and in what manner.

A new sensibility, which I call 'abyssal intimacy',[4] following Derrida (2008) and environmental philosopher Ted Toadvine's (2010) elaboration, allows for human-insect relations to be both intimate and wholly other (Beisel et al., 2013); it invokes a new temporality of care. Abyssal intimacy is about the reconfiguration of time and space such that new experiences of compassion become possible, simultaneously articulating a relation to the other and a mode of attention in scientific knowledge production. As a relation to the other, the notion undoes the opposition between sameness and difference, between temporal continuity and discontinuity, and as a practice it undoes the opposition between activity and passivity and between attachment and detachment. I offer abyssal intimacy as an alternative to versions of embodied knowledges that presuppose the body as an assemblage of forces that can be activated. Abyssal intimacy rethinks somatic sensibility (Greenhough and Roe, 2011) as the possibility of sharing a fundamental vulnerability, and as radical passivity across infinite discontinuous differences. For Derrida, a radical passivity is central to an experience of compassion. If 'embodiment is ongoing, dynamic, situated, and historical', always in formation (Haraway, 2008), abyssal intimacy seeks to disrupt the continuous flow of 'our' (p. 249) human historical time. A less anthropocentric notion of care that is no longer tied to self-preservation but an unlimited compassion becomes conceivable as soon as vulnerability is no longer cast as a weakness to be recognized and overcome (Harrison, 2008) but as something to be shared among all mortals.

In holding on to a multitude of temporalities, I argue, Raffles' narrative achieves a redistribution of the sensible that attunes us to wonder and an appreciation of differences in careful knowledge production – careful 'in the sense of being open to others, or

curious about others' (Hinchliffe, 2008: 95). Curiosity, however, does not in this case necessarily mean to seek to know more at the end of the day, but to seek to know differently.[5]

Through Derrida's reading of Heidegger's notion of the abyss – between 'man' [sic] and 'animal' – I suggest how the possibility of care may relate to conceptualizations of finitude and how a change in the logic of the limit between human and nonhuman animals may refigure the temporality of care. I argue that dissociating embodiment from pure activity, and 'learning to become affected' from a progressive enterprise (contrary to Bruno Latour's conception), may allow for unlimited compassion.[6]

Offended sensibilities: assumptions about what it might mean to care

Feminist writer and animal advocate, Carol Adams (2010), would not have been surprised by the students' response. In her essay, 'The war on compassion', Adams observes that concerns about the suffering of animals in the face of a human tragedy are usually read as an offence to the human victims. 'How can we care about animals when humans are suffering?' is the wrong question, she claims, as it 're-erects the species barrier and places a boundary on compassion' (Adams, 2010: 5). For Adams, 'arguments that separate caring into deserving/undeserving or now/later or "first those like us"/"only then those unlike us" constitute a politics of the dismissive', where being dismissive is 'inattention with an alibi' (p. 5). There are plenty of alibis that support the students' sentiments about bugs in the animal studies literature, alongside attempts to deconstruct the alibi and modify and shift the 'limit' that allegedly separates human from nonhuman animals. Less attention, however, is paid to the notion of 'inattention' or the 'offended sensibilities' that seem to inhibit engagement.

If Judith Butler (2009) is right that 'our affect is never merely our own' and that an affective response is always a response to a perceived state of the world that depends on an 'operative framework within which certain lives are regarded worthy of protection while others are not' (p. 50), what might the operative frames and the underlying assumptions be that caused the students such trouble? The students' written reading responses, written before the class discussion, clarified some of the assumptions that motivated their defense of human exceptionalism in class.

Most unsettling was their implicit assumption that compassion for leaf bugs would require an undifferentiated appreciation of all forms of life according to some universal principle of equality.[7] One student wrote, 'it was difficult for me to see the suffering of the leaf bugs and the suffering of human victims on an *equal* plane'. Another student went further, writing that 'after reading Petryna, it was difficult for me – even though I would have liked to – to contemplate the idea of giving equal consideration to Hesse-Honegger's leaf bugs and the human victims of radiation exposure who suffered from thyroid cancer' (student comment, modified for readability). Their comments seem to be deeply informed by a liberal tradition that grants formal equality to all human beings based on a 'social contract' that presupposes autonomy and the possibility of reciprocity (see Adam and Groves, 2011);[8] clearly leaf bugs could not become citizens in such a

society. Adams (2010) refers to a 'conservative economy of compassion' (p. 5) in this context, as if there could not possibly be enough compassion 'to go around'. Why should compassion or our capacity to care be limited?

A second assumption was made about the temporal orientation of care. Given Hesse-Honegger's environmental activism, the students assumed that caring about bugs involves acting on their behalf. They confused care with a specific kind of advocacy that is not only motivated but also teleological, leading directly to 'helping action' (see Gruen, 2012: 229). From the students' point of view, Hesse-Honegger fails both these assumptions. First, it seems inexcusable for them that Hesse-Honegger wants to speak *for* the bugs and advocate on behalf of the bugs rather than on behalf of human victims of radiation exposure. Second, it remains rather unclear what exactly she is advocating. Philosopher and animal advocate, Lori Gruen (2012), seems to support the students' concern when she asserts that 'I can't connect with embryonic stem cells or microbes (even those that are part of me) and my connection to bugs is thin. I am not moved to act for their sakes if there are other conflicting values in play' (p. 227). A related assumption was the presumed need to specify our subject of care *before* we begin to care. About whom, exactly, should we care? An individual bug? A particular species of leaf bugs? Those particular bugs that suffer deformations?

Perhaps the very juxtaposition of the Raffles and Petryna essays engendered a somewhat violent contrast, or an impossible encounter. Vivid images of human sufferings and economic exploitation did not seem to mix well with Hesse-Honegger's intensely beautiful pictures of deformed leaf bugs. Petryna's ethnographic account made it easy for the students to sympathize with the maintenance workers in the heavily contaminated 'zone of exclusion',[9] whose economic circumstances in the post-Soviet Ukraine forced them to sell their health for tripled salaries. The higher the assigned dose of radiation exposure, founded on the probability of future sickness, the more likely were economic entitlements and social protections (Petryna, 2004: 262). How maddening is it to read that, 'the most precious thing [a mother] could offer her child in that context' was a specific category, a diagnosis, a dose? Here, the 'care of generations' required a scientifically sanctioned category as 'sufferer' or 'disabled'. The brutality of such calculations and the very absence of care in this technocratic health care system surely elicit concern.

If the governance of biological citizens in the Ukraine that relied on vague statistics and probability calculi in order to identify subjects of care signified the *absence* of care, what kind of scientific engagements may lead to a more careful knowledge production?[10] If practices of care are to be alternatives to a calculated making-live-and-letting-die biopolitics, what or who counts as a subject of care cannot be delimited in advance.

The classroom discussion makes clear that the following normative questions, which continue to drive a wedge between ethics and knowledge politics, between animal advocacy and non-anthropocentric STS, are ill-conceived: 'Which group of animals might we be pleading for?' (Lundblad and DeKoven, 2012: 12). To whom does value matter? (Wolfe, 2012a: 84). 'How do I, in general, determine the scope of my responsibility?' (Butler, 2009: 35). The more relevant ethico-political and pedagogical questions might be: how do we become affected? How do we begin to care about animals? What is the relationship between knowledge and affect? How do we figure the temporality of care?

Toward a less anthropocentric notion of care: on the abyss in Heidegger and Derrida

Many feminist authors have argued that care requires a re-orientation to time (Adam and Groves, 2011; Bird Rose, 2004; Haraway, 2011; Puig de la Bellacasa, 2015). Rather than arguing for the priority of a particular modality of time, whether it might be more important to care about past or future generations or to re-evaluate the present, my concern here is with a certain anthropocentrism at work when care becomes associated with future-oriented action.[11] What is at stake here is not a critique of futurity[12] *per se*, but the possibility of differently figuring the relationships between past and future and human and nonhuman animals.

For Heidegger, time makes care possible. Care signifies our (human) relationship to the 'world' as distinctly different from an animal's relation to the world. An authentic mode of caring is future-oriented; it implies knowing and caring about one's own death. 'Time involves something like the knowledge of being mortal', says Derrida (2008: 20). Nonhuman animals, according to Heidegger, do not have time as they are not aware of their own death. For Heidegger, it is the animal's ignorance of its own death, its inability to anticipate the future, or 'whether the animal can apprehend something as something, something as a being', that separates it 'from man [sic] by an abyss' (Heidegger, 2001: 264). On Derrida's reading, time here is the violence of an ontological distinction between the human and the animal (in the singular). Rather than disavowing a radical discontinuity between humans and other animals, Derrida adopts the notion of the 'abyss' from Heidegger and deconstructs its meaning. For the later Heidegger, the 'abyss' no longer simply implies an ontological distinction between humans and nonhuman animals, but also refers to what connects 'our scarcely conceivable, abysmal bodily kinship with the beast' (Heidegger, 2010: 230). In his *Contribution to Philosophy*, the abyss becomes an *Abgrund*, a bottomless, unfathomable ground: 'The abyssal ground is the hesitant self-withholding of the ground' (Heidegger, 2012: 300). For Derrida, there is no single dividing line between humans and other animals based on the ability to know death 'as such', or to question the meaning of Being or any other human capacity, but the abyss rather becomes an opening within Being or within the subject. Mortality, a shared vulnerability, 'something nonlived in us' (Hansen, 2004: 622) becomes the very (impossible) possibility for a subject to be itself. Shared vulnerabilities (among mortals) cannot be thought to reside along a biological continuum, nor can abyssal differences be arranged hierarchically or teleologically (Toadvine, 2010: 254). There is a difference between a 'logic of the abyss' and an 'abyssal logic' (Toadvine, 2010: 251). Derrida (2008) asks us to think what 'a limit becomes once it is abyssal' (pp. 30–31). An abyssal logic sutures ruptures and repetitions, continuities and discontinuities. It is important to note that Derrida does not only simply suggest the multiplication of differences between humans and other kinds of animals, as some of his readers assume (e.g. Wolfe, 2012a); he does not simply speak of a multiplicity of relations between humans and animals, but of 'a multiplicity of organizations of relations between living and dead, relations of organizations or lack of organization' (Derrida, 2008: 31). At stake here is not just the multiplication of differences within the animal kingdom or between the human and nonhuman animal but rather a different conceptualization of difference, an interrogation of

the framework of the organization of relations. These organizations of relations depend on the 'distribution of the sensible', the configurations of the relations between space and time. As the ground withdraws, the spatial figure of the abyss can also be understood in temporal terms as 'an instantaneous dissociation from the present, a différance in being-with-itself of the present' (Derrida, 1993: 17).

An abyssal logic changes the 'ground' of affectivity from an auto-affection which, according to Heidegger, establishes human temporality, an ability for self-reflection, or the ability of a historical being to bring itself back to itself premised on the possibility of self-presence, to a hetero-affection. A hetero-affection does not rely on self-presence, but on an abyssal relationship to the other, abyssal in the sense of bottomless or groundless (infinite and without ground or beginning). Hetero-affection inscribes mortality within life, inserting a blindness or indeterminacy into an auto-affection from which creativity issues. Abyssal intimacy then describes simultaneously a mode of engagement and a new kind of relationship between humans and other animals that is neither continuous nor discontinuous, but rather marks a time-out-of joint; it retains a secret that unhinges the present. Abyssal intimacy does not require recognition, but describes a creative engagement that relies on the withdrawal of the self, a passivity that enables an active listening, an opening to surprises. Abyssal intimacy suggests a notion of care that cannot be aligned with a politics of self-sufficiency (Yusoff, 2013: 224), but becomes associated with a politics of aesthetic indeterminacy (Rancière, 2011).

Learning to become affected: with and without care

For Bruno Latour (2004a), learning to become affected entails learning to have a body that would be able to progressively differentiate between hitherto unregistrable differences. In other words, 'what presents itself to sense experience' is not given, but progressively acquired in learning to differentiate the effects of ever more entities. Latour (2004a) provides the example of acquiring a 'nose', that is, learning how to discriminate more and more subtle differences in odor. 'A dumb nose', he writes, is 'unable to differentiate much more than "sweet" and "fetid" odors', but after a training session, students are '*effected* by the influence of the chemicals which, before the session, bombarded their nostrils to no avail' (Latour, 2004a: 207, emphasis in original). In this case, 'a teacher … has been able to render his indifferent pupils attentive to ever more subtle differences' (p. 207). Becoming 'sensitive to differences' means 'to be moved into action by the contrast between two entities' (Latour, 2004a: 209). Thus, '[b]eing moved is synonymous with being put into motion' (Latour, 2005: 48). 'Acquiring a body is thus a progressive enterprise that produces at once a sensory medium and a sensitive world' (Latour, 2004a: 207). Two things stand out in such an account. First, Latour collapses affect and effect, such that becoming affected is indistinguishable from the acquisition of any other skill or knowledge. Second, these skills progressively accumulate. Teaching and learning become once again the closing of a gap between the knowledgeable and the ignorant. In such a framework of progressive accumulation of knowledge or skills, becoming affected has little to do with beginning to care.

For Jacques Rancière, a mode of teaching and learning that would seek to eliminate a gap in knowledge supports hegemonic norms of sense perception (Lambert, 2012),

norms that rely on a progressive temporality and are based on hierarchical oppositions between looking and acting, appearance and reality, activity and passivity (Rancière, 2007: 277). In other words, learning is based on a structure of inequality: 'There is one population that *cannot* do what the other population does. There is capacity on one side and incapacity on the other' (Rancière, 2007: 275). Rather than presuming an unequal distribution of capacities between teacher and students (or human and nonhuman animals), and a spatial gap that should be diminished or suppressed, an abyssal difference 'manifests itself through an unsurpassable rupture in the continuity of space and time' (Clark, 2007: 1133), reconfiguring the political aesthetics and the temporality of care.

Latour is certainly not alone in conceptualizing affect as activity or a physical force that turns the body into action. A large number of affect theorists draw on the work of Spinoza, who associates affectivity with 'the affections of the body by which the body's power of activity is increased or diminished, assisted or checked' (Spinoza, quoted in Latimer and Miele, 2013). In such a view, the body is pictured in mechanical terms as an assemblage of forces (see also Blackman, 2010). Spinoza's theory of affectivity is directly connected to the physics of motion (Braidotti, 2006: 6). Neo-vitalist approaches borrowing from Spinoza associate passivity with negativity and stagnation, while emphasizing the affective activation of the body. The goal of ethics would be a continuous action leading to activism. In such approaches, only future-directed activities are associated with positive transformations. Vulnerability, on the other hand, becomes associated with a passivity that is opposed to activity, or demands recognition, as Butler (2004: 43, 2009: 1–32) proposes. As human geographer Paul Harrison (2008) states, 'we appear to have great difficulty in apprehending vulnerability otherwise than as a failing, as a teleologically constituted prelude to action' (p. 424).

Re-reading Jeremy Bentham's (utilitarian) question of whether animals can suffer in conjunction with Levinas' notion of 'radical passivity', Derrida (2008) affirms vulnerability as a non-ability or passivity due to the mortality that we share with all living beings. 'Can they suffer?' then amounts to asking 'can they not be able?' (p. 28). In this way, 'being able to suffer' becomes a possibility without power, a 'possibility of the impossible' (Derrida, 2008: 28). There is no (Cartesian) doubt regarding whether animals can suffer; the question is not a matter of positive knowledge, based on 'indubitable certainty', not a matter of a capability or of having the ability of the logos. For Derrida, the witnessing of the question (of suffering) already harbors the response as responsibility to the other, who is no longer the absolute other. Sharing suffering as an experience of compassion manifests a response that precedes all other questions and changes the very foundation of knowledge, unseating it from its 'natural' or 'historic' ground (Derrida, 2008: 28). In other words, the possibility of sharing the passivity at the heart of knowledge suggests a mode of witnessing that is no longer based on the values of truth and certainty, but entails a response that testifies to a passion. And, 'passion', as Michel Callon and John Law (2005) affirm, 'is about both passivity and activity' (p. 722).

Beginning to care: from empathy toward different kinds of intimacy

Not all my students were indignant. Some of them were actually deeply moved by Raffles' account and Hesse-Honegger's paintings. One of them observed rather astutely

that there is something about how Raffles writes that engenders care: 'Raffles' article feels very different to read'. (Raffles' work has been referred to as 'poetic ethnography'.) In addition, he mentioned attention to detail and Hesse-Honegger's unique way of documenting her findings. Most importantly, however, he then asserted,

> it is because of the very personal portrait that Raffles paints of Hesse-Honegger and her work that I was able to care so strongly about the seemingly-irrelevant plight of leaf bugs as it relates to the larger overarching problems of nuclear radiation.

Caring for him is a matter of empathy engendered by the possibility of identification.

Empathy clearly plays a role in Raffles' (2010) account. We learn, for example,

> when she [Hesse-Honegger] is outside, collecting in fields, at roadsides, and on the edges of forests, she 'loses herself in the animal'. At these moments, she says, she feels 'very connected, extremely connected', feels a deep bond as if, perhaps, she herself had once been such a creature – a leaf bug – 'and had a body remembering'. (p. 15)

Further on, Raffles (2010) suggests that this connection is indeed a personal one:

> When her son was born, the doctor came into her room and made a drawing for her to break the news that her child had a club foot, […], when she saw that first deformed leaf bug in Sweden it had a crippled foot too. (p. 29)

Under the microscope, seeing becomes knowing; Raffles (2010) quotes Hesse-Honegger, 'Although I was theoretically convinced that radioactivity affects nature, I still could not imagine what it would actually look like. Now these poor creatures were lying there under my microscope. I was shocked' (p. 21). While the deformities remained imperceptible to Raffles' own untrained eyes, he reiterates, '[J]ust think, she says, what such an anomaly must feel, if you are only two tenths of an inch!' (p. 15). Clearly imagining the pain of another takes some trained vision in this case. Even if empathy is always entangled with cognition as Lori Gruen (2012) suggests, it would require an initial emotional reaction. Can we imagine the pain of a leaf bug? (See Figure 1).

Can beginning to care be reduced to a feeling of empathy, an ability to put oneself into the shoes of another? Are not Hesse-Honegger's experiences and passions rather idiosyncratic? For some of my students the 'shoes' of leaf bugs seem just a bit too small or irrelevant. Or, is the larger point to care for 'neglected things' (Puig de la Bellacasa, 2011)? But leaf bugs? 'So tiny, so damaged, so irrelevant' (Raffles, 2010: 29). 'Who cares about leaf bugs? … They are just nothing' (Hesse-Honegger quoted in Raffles, 2010: 29).

Rather than highlighting 'empathy', Raffles elaborates on different of kinds of intimacies. For Raffles, knowledge practices are mediated by affect as well as power and discourse, terming those that encompass the affective in the broadest sense 'intimate knowledge' (Raffles, 2002: 326, 332). He contrasts intimate knowledge with 'local' knowledges which might be too easily consigned to parochialism (Raffles, 2002: 332), as they are necessarily relational, but it relies as much on ruptures and detachments as on passions and engagements. The intimacy, I argue, becomes abyssal.[13]

Figure 1. Cornelia Hesse-Honegger paintings. Left: soft bug (Miridae) collected in 1988 near the nuclear power plant Gösgen, Switzerland, with partially irregular facets with large lump growing out of the left eye. Right: soft bug (Miridae) collected in 1988 near the nuclear power plant Gösgen, Switzerland. Differently sized and proportioned wings. Courtesy of Verlag Helvetica Chimica Acta (Hesse-Honegger and Wallimann, 2008).
These are not the paintings shown in Raffles' Insectopedia.

Intimacies in science and art

'Collecting [bugs] created one kind of intimacy […] the intense attention of painting another type' (Raffles, 2010: 18). Collecting is pictured as personal obsession, creating and demanding ecological and behavioral knowledge. Raffles does not tell us what comes first, affect or knowledge. He is, however, much more interested in the second kind of intimacy. We do not learn much about the life of leaf bugs. Empirical information about how leaf bugs make a living is not what solicits care in this case. It also does not matter how closely they are related to 'us', or how exactly they may or may not feel pain. We are simply informed that leaf bugs are exceptional biological indicators; they are exceptionally vulnerable to radioactive contaminants taken up by the plant on which they live (Raffles, 2010: 21).

Instead, we learn some details about Concrete Art, an aesthetic tradition that emerged in the 1930s around the Swiss painter Max Bill, in which Hesse-Honegger was trained. Concrete or non-objective art is an attempt to break with the 'conservatism of representational art', Raffles (2010) explains: 'Concrete paintings tend toward geometric patterns, high contrast color blocks, glassy planes, and the refusal of figurative or even metaphorical reference' (p. 30). Concrete paintings depict neither natural phenomena nor abstractions; they are not tied to an object nor do they transform or mimic their object, as abstract paintings would do; they refuse symbolic reference; there is no light and shadow,

which would render them 'historical', capturing and freezing a moment in time; rather, color perspective renders them 'timeless, outside time' (p. 29); the work 'references nothing outside itself' (p. 31). Concrete Art not only breaks with representationalism but also with historicism. The deformed insect becomes a unique event.

For Hesse-Honegger, painting is research, a form of active or visceral seeing grounded in close observation of 'nature' (Raffles, 2010: 35–36). Rather than as an obsession that guides her collecting, her painting practice is better characterized as passion. She 'is activated as a subject both creating and created by passions', in Vinciane Despret's (2004: 131) terms. Hesse-Honegger's scientific approach to art may recall Latour's (1999: 126) conception of a scientific experiment as both a craft and an event, but while Latour's notion of an event implies a frozen moment in time (frozen 'social' relations), Hesse-Honegger's painting practices appear to engender events outside of time. Highlighting the deformed morphology of the insects rather than their ecology, her practice involves an experience almost opposite to that of collecting. Raffles (2010) tells us: 'When she sits down with her microscope, she no longer experiences the insect as coevolved being, but as form and color, shape and texture, quantity and volume, plane and aspect' (p. 18). Not kinship, but curiosity and wonder guide her.

If collecting bugs in the fields could be described as a 'gathering' in both the literal and the Latourian sense,[14] guided by matters of concern in which all actors gain in reality and 'subjects' and 'objects' cheer each other on in an excess of activity, the 'matters of care' in painting cannot be grasped as an activity of continuous connecting, harmonious joining, or progressive adjoining that culminates in an event. Rather, caring for an other, as we will see, must leave space for dissociations and disjunctures, the disjointed and disadjusted (see Derrida, 1994: 22–23). Puig de la Bellacasa's (2011) important distinction between 'matters of care' and 'matters of concern' can be articulated in temporal terms. Concerns are driven by the activity of gathering and motivated by an end, that is, stabilization of the assemblage as 'thing'. In Hesse-Honegger's painting practice, the 'thing' that 'stands apart' (Latour, 2004b: 236) refuses to settle. Care requires a different kind of temporality.

Intense engagement through detachment – out of time

On one hand, Hesse-Honegger's painting practice involves an intense engagement, a focused attention to the particularities of the individual insect, and a high degree of geometric precision: 'I want to be like a laser that goes from one square centimeter to the next. I see it, I show it; I see it, I show it', Hesse-Honegger tells Raffles (2010: 16). Are not repetition and technical precision considered to be opposed to care? On the other hand, Hesse-Honegger's research entails an active withdrawal of herself, freeing the paintings of her presence (p. 32). Through passionate detachment, she seems to be creating images outside of time; '[s]he sees everything as if for the first time', Raffles informs us (p. 21). Freeing herself from all prior assumptions, she strives to be completely open to what is in front of her, so that the insect can be itself, without judgment. This mode of attention may allow a detachment from presupposition of social convention, but it also seems to remove 'her environmentalist politics and her sympathies for the animal from the image' (p. 32). On display, Raffles remarks (almost in passing),

'the insect hangs, massive, stunning in its detail, supplemented by a label that identifies the date and site of its collection as well as its irregularities, and that grounds the atemporal image in time, place, and politics. Sharing much of the visual grammar of the biological sciences, the paintings seem mutely dispassionate, resolutely documentary. But so thoroughly in the world, they shimmer with emotion' (p. 29).

On first sight, it seems that a proper contextualization that insists on the importance of particular times and places reconciles a dispassionate scientific objectivity with both anti-nuclear politics and Hesse-Honegger's affectively charged engagements with the insects. However, don't we already have to be sympathetic to her politics in order to discover these emotions? Is mere contextualization sufficient to begin to care? Raffles' close attention to Hesse-Honegger's painting practice suggests otherwise. As Brian Massumi (2002) affirms, emotions are contextual, while affects are trans-situational (p. 217). Becoming affected takes more than an emotional response.

Three readings, three sights, three temporalities

Returning to one of the students' comments, 'Raffles' chapter feels very differently to read', I wonder: how does Raffles enact affective relations, how can the reader connect, and what would be the subject of care?

Raffles' narrative is highly performative, with content and form thoroughly entangled. That is, he enacts what he describes, sometimes to such an extent that the voice of the author and the voice of his informant are difficult to separate. Karen Barad (2007: 39–94) would call this a diffractive mode of writing, one in which the object/subject of study is thoroughly entangled with its apparatus of production. Ruptures are crucial elements of Raffles' writing. The narrative alternates between historical personal accounts, descriptions of images, commentaries on these descriptions, art history, accounts of the process of painting, personal communications, and storified scientific accounts.

What Raffles asserts about Hesse-Honegger's painting practice may hold for his narrative strategy too; it is a 'way of achieving multi-dimensional knowledge of the subject' (Raffles, 2010: 19). But what or who is the subject in the case of Raffles story? And, '"How to show structure" … when the painting [or writing in this case] is far more complex than it appears?' (p. 32). I would like to propose three different possibilities, three (partial) readings, even if the effort of ordering Raffles' 'systematic randomness' does considerable violence to his ethnographic witnessing and writing. Can there be care without risk and violence? I have already outlined two of the possible readings above; one focuses on the possibility of identification with a particular subject and the other on the practice of painting. In the following, I would like to draw attention to how these readings may or may not enable a beginning of care in relation to their temporalities. A third reading will relate Raffles' account to the sensibility that I call 'abyssal intimacy'.

Avoiding the trouble: moments of empathy in historical time

The first possible reading was provided by the student quoted above, who focuses on moments of possible personal identification in Raffles' account. Such a reading avoids the trouble with the limit and the beginning of care; it rather proceeds through successive

personal identification with the author, the painter, and the bugs. The subjects of care in this case are specific individuals.

'I don't want to write a hero-story', says Raffles (2010: 27), but at times that seems difficult to avoid. Empathy is not only invoked for the leaf bugs through description of Hesse-Honegger's passion for and close bond with the insects, but also for the person Cornelia Hesse-Honegger, through her persistent struggle and failures to gain recognition in the scientific community. Her former professor 'scolds her like a child for the articles in the Tages-Anzeiger. Don't think you are a scientist just because you have drawn pictures for me and my colleagues, he tells her' (pp. 26–27). The author clearly expresses sympathies for his informant and her struggles and methodologies.

Since Raffles' narrative is anything but linear or 'historical', grounds for empathy or moments for possible identifications have to be discovered in particular sections of the text. It might be important to note, as Despret (2013b: 60) does in a different context, that 'the identities upon which identification could ground itself do not pre-exist'; rather, identification becomes possible only through 'the previous construction of affinities'. If that is the case, if affinities must exist prior to the possibility of identification, 'empathy' seems to be ill-suited to provoke a beginning of care. Empathy requires the unity of an 'I'. The condition for empathy is auto-affection, the becoming present to self in a particular moment in time of a historical subject. Identification and self-presence do not put the subjects at risk, as Haraway (1991) would say, nor do they solicit care if the subject does not already care or has been at least prone to care about various nonhuman 'others'. At best, the possibility of empathy expands the range of our concerns; it may move the limit, but it does not transform our sensibilities. It does not cause trouble. Raffles' story provokes much more than empathy.

In another *Insectopedia* entry, Raffles explains,

> We simply cannot find ourselves in these creatures. The more we look, the less we know. They are not like us. They do not respond to acts of love or mercy or remorse. It is worse than indifference. It is a deep, dead space without reciprocity, recognition or redemption. (Raffles, 2010: 44)

If 'self'-recognition – the recognition of the self in others – fails, if we simply cannot recognize ourselves in insects, can this very failure of recognition perhaps be productive of another mode of ethical relating?

Staying with the trouble: holding on to tensions – a vibrating presence

On a second read, Raffles gives an account of multiple struggles, his own struggle between description and transformation and between critical distance and close engagement, which also manifest themselves between Hesse-Honegger's contribution to science and her environmental politics and within the conflict-ridden, process knowledge practice of painting. The focus here is not on individuals but on the multiplicity of relations between observer and observed. In describing Hesse-Honegger's painting practice, Raffles highlights contradictions, delighting in exaggerations, so it seems. He piles

opposition upon opposition, one after the after, in no particular order, engendering tensions that surely begin to trouble.

At times, the descriptions of Hesse-Honegger's painting practice read as commitments to the most conventional forms of scientific objectivity, aimed at creating an illusion of neutrality through the erasure of the investigator. The motivation of her scientific art, however, seems diametrically opposed to the one of 'objective' science; rather than getting closer to the object in front of her, she seeks to create a rigorous break with any kind of objectivity, removing the 'object' completely from the scene of painting. Rather than becoming the subject, the insect is offered as pure 'aesthetic logic, as coalescence of form, color, and angle' (Raffles, 2010: 30). 'Everything is always so focused on those watercolors … ', Hesse-Honegger laments, as the insects become merely vehicles for artistic expression (p. 32). However, there are also apparent failures and frustrations, and not merely partial failures through which judgment might sneak back into the picture, but complete failures. Rather than being all about the individual leaf bug, the paintings become all about structure, the exposure of deformations, environmental politics, a matter of concern – 'too effectively standing in for human fears and too readily bringing viewers' self-concern to the fore, they elicit the wrong response' (p. 38) – while at other moments they are just art.

Thus Hesse-Honegger's care manifests itself as a struggle through frictions or multilayered tensions, a struggle between artistic creation and scientific observation, between subjectivity and objectivity, intense engagement and the withdrawal of herself, an attempt to do justice to the individual deformed bug and its representation as an icon that stands in for all-too-human concerns, a struggle to simultaneously provide scientific evidence for the effects of long-term low-dose radiation on living beings more generally and to solicit compassion for leaf bugs. In holding on to the contradictions, Raffles seems to want to preserve Hesse-Honegger's struggle in his renderings of her aesthetic-epistemic-ethics and make it visible in her paintings, while also showing Hesse-Honegger, the person, as whole, full of contradictions, in her living presence. This might be one way to figure the temporality of care, as a wavering, oscillating, vibrating presence, full of internal tensions. Rather than fleeting emotions at particular moments in time, affects are generated here through tensions that endure in an extended presence.

Transforming the trouble: a politics of aesthetic indetermination – a time out-of-joint

On third sight, yet another reading is possible, one that renders the possibility of care neither as an empathetic identification nor as a struggle of oppositional impulses nor a management of contradictions, but rather as a break with the oppositional logic itself. Here, Raffles' narrative follows an abyssal logic, I suggest, in the sense of 'interrupting the relation to any *presentable* determination but still maintaining a presentable relation to the interruption and to what it interrupts' (Derrida, 1993: 17). This third sight requires a triple vision that holds the relationships between author and reader, painter and insect, image and viewer, simultaneously in view. Paying attention simultaneously to the storytelling, the process of painting and the product, it is an attempt to bring their

entanglements to light (Barad, 2007: 73). This is not an aspiration to greater complexity or even completeness; it stages the multiple encounters between writer and reader, subject and object, image and viewer as an impossible experience, the experience of an impossibility. Such an impossible experience suggests a traversal without passage, a 'movement' without trajectory, which can no longer be conceived as happening in time; it rather introduces a distance or spacing, which according to Derrida is a temporal operation, a temporalization, 'the becoming-time of space' (Derrida, 1982: 8). As Jean-Luc Nancy (1990) puts it, 'This spacing spaces time itself, spacing it from its continuous present' (p. 156). It engenders a temporality thoroughly 'out-of-joint'. 'This means that something *happens*: to happen is neither to flow nor to be present' (Nancy, 1990: 156). The promise of an impossible experience is the promise of an event. 'Understanding the sense of that break in the heart of time also mean[s] putting into play another kind of knowledge' (Rancière, 2007: 279).

Raffles (2010) opens his entry on Chernobyl with the following two sentences:

> I look at this photo of Cornelia Hesse-Honegger in her apartment in Zurich and try to imagine what she sees through her microscope. Beneath the lens is a tiny golden-green insect, a member of the sub-order *Heteroptera*, the leaf bugs she has been painting for more than 30 years. (p. 15)

Doubly removed from the scientific artist – Raffles only looks at a photo of her – and her object of study, the reader is invited to follow the author's imagination and look directly through the microscope at a 'tiny golden green insect'. Such an invitation creates an immediate intimacy with the insect, while simultaneously destroying any illusion of an unmediated access. Multiple abyssal distances separate us from the leaf bug. We have to imagine Raffles' imagination of Hesse-Honegger's ways of seeing, looking through a microscope, and yet the insect is right 'there', a 'tiny golden green insect', or so it appears. Would that be possible? Raffles thoroughly undoes the opposition between proximity and distance, appearance and reality, viewing and knowing in his first two sentences, without ever effacing the critical differences between those terms. Setting the tone for the rest of this entry, continuously disrupting established relations, he introduces a new politics of positioning that after Rancière can be called a *politics of aesthetic indetermination*.

In what I would call the Derridean moments in Raffles' text, oppositions cease to confront each other as exteriorities, but rather become folded into one another, becoming conditions of possibilities for one another. In one of those moments, Raffles (2010) asserts of Hesse-Honegger:

> her method is both highly precise and, in the sense that the outcome is contingent on what is present under the microscope, substantially random. It is not unusual that after finishing a painting, she discovers that the insect is deformed in ways she hadn't noticed before. (pp. 31–32)

Here, the appearance of the unexpected is not due to the failure of an ordering practice (Law and Lien, 2013: 369), but is rather part of her technology of care, a particular mode of attention. In systematically complementing precision with randomness, Hesse-Honegger's self-withdrawal is no longer opposable to judgments about the exposure of

deformities, but becomes its condition of possibility, such that the insect may contribute to its visible renderings. Rather than being 'completely open [only] to what is [already] in front' of her (Hesse-Honegger quoted in Raffles, 2010: 21), she seems able to listen to that which is still to come (behind or besides her-'self') to that which befalls her as an 'event' or as a surprise. In this way, seeing in her painting practice becomes visceral through an active desubjectification that allows for a 'passive' decision, 'coming from the other within' (Derrida, quoted in Wolfe, 2012b: 39). The (dead) insect body, neither subject nor object, becomes 'a most engaging being', leaving inherently indeterminate the source of activity and who engages whom (Haraway, 1991: 199).

The possibility of care is related to an out-of-jointness of time that shifts the ground of affectivity from an auto-affection to a hetero-affection that affirms an abyss not only between different kinds of beings but also within Being: death within life, mortality as non-power at the heart of the power to know, based on a fundamental passivity. In this way, knowledge loses its tight link to power and certainty and becomes affective, open to becoming affected by an other. Hetero-affection opens up a new way of seeing; it simultaneously produces a certain blindness and an excess as a creative desire, a desire to see beyond one's own reflection, which could be read as a desire 'that falls in love with what it sees' (Toadvine, 2010: 263). While this mode of seeing could arguably be learned, it has nothing to do with a progressive differentiation, it is rather a creative mode of attention, that 'introduces difference into the very idea of sensation' (Rajchman, 2002: 15). Such a mode of attention unfixes relations and transforms 'the politics of positioning between observer and observed' (Myers and Dumit, 2011: 251, 252). And, finally, we learn that Hesse-Honegger's art is actually 'neither concrete nor naturalistic' (Raffles, 2010: 32). As for life, art is capable of holding multiple temporalities in place (Rancière, 2011: 15).

Bringing an abyssal intimacy into view

While Raffles' account thoroughly transforms our way of seeing, is it not the case that, in the final analysis, the picture is everything while the individual insect is lost? And, yet, Raffles affirms:

> [S]omehow, the portraits also achieve a doubling, a breaching of the lines between human and animal. These intensely direct paintings embedded so strongly in fears of invisible poison and malevolent corporate power enforce identification across the most radical of gaps by insisting on the most fundamental of commonalities – physical vulnerability, mortality – and by evoking a sense of humility in the face of complex beauty. Her portraits, and the controversy she generates around them, force people to transcend species difference by recognizing a conjoined fate, a common witnessing, a shared victimhood. It is quite unsettling: the eye of the painter and the viewer suspended between the clinical and the empathetic, a loss of stable distinction between subjects and objects, between humans and insects, between intimacy and distance. (Raffles, 2010: 38–39)

These paintings trouble; inhabited by an unbearable undecidability, they call for responsibility about what, for whom, and how to care. Whether we want to talk about 'a breaching of the lines' and 'identifications across radical gaps' or we prefer to follow Derrida

(2008: 31, 30) more closely and propose that the lines become internally divided and repeatedly folded, the point here is that the viewer is suspended in a zone of indeterminacy, introducing a delay, questioning any self-presence of the human subject within, before, or behind the painting. Rendering visible simultaneously a shared vulnerability and the invisible, irrelevant and neglected, Hesse-Honegger's paintings depict an abyssal intimacy or an intimacy without necessary relations or filiations, neither genealogical nor oppositional. The paintings seem to retain a secret, which cannot 'be captured or covered over by the relation to the other' (Derrida, 1995: 30). Abyssal intimacy can then be understood, in Nigel Clark's terms (borrowing from Levinas), as 'a relation that enfolds within itself the condition of strangeness, the non-relation of unshared and incommunicable experience, even as it opens up the very possibility of being-together', the formation of a bond (Clark, 2007: 1133).

Rather than empathy, the paintings provoke compassion. According to the *Oxford English Dictionary*, compassion means 'suffering with another'. Compassion does not presuppose being in the presence of another or a feeling for another. As Nancy (2000) puts it, 'Compassion is not altruism, nor is it identification; it is the disturbance of violent relatedness' (p. xiii). For Derrida (2008), it is the possibility of sharing such a non-power, mortality as vulnerability, a passivity within life, an impossible experience that enables 'the experience of compassion' (p. 28).[15] Compassion also involves what Elizabeth Grosz (2008) calls an 'intensification of sensation', a meaning-making seeing, simultaneously embodied and disembodying. It disembodies affection, allowing it to spread across subject-object and species lines. Importantly, affectivity here can no longer be understood in Spinoza's sense as an intrinsically positive 'force that aims at fulfilling the subject's capacity for interaction and freedom' (Braidotti, 2006: 10). Affectivity becomes disconnected from the physics of motion (Braidotti, 2006: 6). To inspire, to incite, to effectuate affectivity in others is no longer just a question of power or capacity to effectuate 'in the others the power to be affected' (Despret, 2013a: 38), but relates to a non-power that involves passion and passivity, an active withdrawal of the historical self. Rather than based on a becoming as pure activity, the temporality of care specific to these paintings is a 'co-presence of heterogeneous temporalities' (Rancière, 2004: 26). Translating emotion, as being moved, without delay or hesitation, directly into motion, as a directed movement in time erases the necessary and undeniable passivity (a vulnerability due to mortality) within the 'self' that enables us to become affected in the first place.

To think such an abyssal intimacy (with care) that keeps the viewer suspended in a zone of indeterminacy, hesitating, slowing down, not exactly knowing what to do, confused, listening intensely to what might still be hidden before and behind the painting, but also desiring to act with passion, requires a different logic of time, a different deconstruction of the metaphysics of (humanist) self-presence – different from the privilege of futurity or the teleology of a gathering and its demand for immediate or direct action. These paintings move us, but they do not necessarily move us *in* time, they do not prompt us to immediate (re-)action, literal movement, as if we already knew in advance what would be the right thing to do, about low-dose radiation exposure, for example. Both the aesthetic affect and the political effect are tied to the power of indetermination (Rancière, 2011: 18–19). Caring requires decisions, but not without experiencing the 'ordeal of the undecidable' (Derrida, 1992: 24).

Perhaps learning to become affected may then entail dissociating affection not only from the humanist subject, but also from movements in time, from direct (helping) action and the assumption that advocacy necessarily means speaking *for* an other (usually assumed to be inferior). We do not have to like the leaf bugs to be affected by Hesse-Honegger's paintings, nor do we necessarily have to care about particular bugs, but we will have to care. If she advocates *for* anything then it is that science be conducted with more humility and care. Ignoring the impact of low-dose radiation on insect and plants points 'to a crisis in the investigation of the effects of artificial low-level radiation' (Raffles, 2010: 27). There is no knowledge or learning without care. And, after a careful engagement – an engagement that is able to open the self toward what is (not only) in front of us – with Raffles' text and Hesse-Honegger's painting, there *seems* to be no way not to care about deformed leaf bugs.

Conclusion

The emotionally charged classroom discussion revealed that the ostensible lack of care expressed in the student's statement, 'I don't care about bugs', was not a matter of disinterest or indifference to nonhuman lives, but a matter of the students being rather disturbed or troubled. Disturbance is also an affective response; it may render prior knowledge and values insecure. They were disturbed because Raffles' account remained insensible within a framework that orders human-animal relations in oppositional terms according to similarities or hierarchical differences. At the end of the class, which engendered one of the liveliest and most engaged discussions of the semester, it became clear that the statement, 'I don't care about bugs', meant 'I don't know how to care about bugs without sacrificing my sympathies for the human victims'. One possible response could have been 'but you do already care, since care issues from a practice of engagement'. That is to say that the students were implicated by Raffles' text, and even though it ceased to make sense, the discussion was passionate.

'The work of making sense', writes Kathryn Yusoff (2013), 'is to hold together disparate insensible experiences, to bring them toward an intelligible relation' (p. 224). 'Abyssal intimacy' is my proposal for how to hold together impossible (aporetic) experiences. It points toward a politics of care that risks imagining alternative relations between humans and nonhuman animals, allowing for indefinite differences and situational intimacies in careful knowledge practices. If the enabling of responsiveness entails the synchronization of heterogeneous temporalities, as I have argued elsewhere (Schrader, 2010), then becoming affected may entail a radical desynchronization of 'our' anthropocentric time.

Facilitating care in the classroom may entail the generation of space-times for hesitations; not a closing of an ostensible gap between knowledge and ignorance, but a new appreciation of 'unbridgeable, unfathomable distance' that 'manifests itself through an unsurpassable rupture in the continuity of space and time' (Clark, 2007: 1133), allowing for an abyssal encounter to become intimate. Becoming troubled is necessary before a transformation can occur. As Sara Ahmed (2004) affirms, 'It takes time to know what we can do with emotion' (p. 202). The point is not, as Rancière would say, merely turning passive spectators into active participants that would intervene into the performance of a

text or a lecture in the theater of the classroom, but learning and teaching to listen. Learning to listen to trouble means beginning to care. An active listening requires a withdrawal of the self, an exercise in passivity and engagement at the same time. Listening 'is not a passive docility, much less an uncritical compliance' and 'no more a negative activity busy submitting everything to a denial', it rather engages the trouble, 'without limits' as Derrida (1989: 134) says.

Latour has a point when he states that 'an articulate subject is someone who learns to be affected by others – *not by itself*' (Latour, 2004a: 210); the other is, however, never given 'as such'. Learning to become affected also entails learning that the other, any other, *is* permanently 'not yet'. A caring subject is always out-of-sync with itself – always too early or too late to be itself. That is why Latour is also right to affirm that there is no limit to articulation, and not because the world is inherently teleological. Only an anthropocentric cosmos can be progressively composed.[16]

After Derrida, learning to become affected also means learning to be finite (here and now), which means becoming vulnerable; it entails a refiguration of the 'ground' for our compassions as abyssal, bottomless, infinite, and incalculable, as *Abgrund* – the hesitant withholding of a ground, while the manifestation of compassion can only happen in particular spaces and times. The assumption of the limit of compassion presupposes a particular conception of time based on an anthropocentric notion of finitude that renders death as teleological end of life, rather than internal to or as part of life. While we may have to choose our particular struggles, we do not have to decide in advance about whom to care. Compassion and care as affective relations or modes of attention do not *take* time, they rather *make* time differently. What we actually care about depends on encounters that could be both entirely random and authoritatively imposed. After all, I made the students read Raffles' text. Did the students have a choice not to care about deformed leaf bugs? Some of them will have avoided the trouble, some of them may have stayed with the trouble and the classroom discussion is still haunting them, while others may have realized that caring has always already begun, that there is no beginning to care.

In a recent commentary, Hugh Raffles characterized his *Insectopedia* as a 'non-pedagogical experiment'.[17] His *Insectopedia* might be non-pedagogical in the sense that its entries refuse easy conceptualization and explication. I would suggest, however, that might be exactly why they are intensely pedagogical. I hope to have made a case for the pedagogical value of at least one of its entries, in the sense that it teaches us *how to care*, how practices of knowledge can become practices of care (Despret, 2004: 130), if we care to listen.

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Notes

1. Note that for Haraway (2010), 'wild' (p. 53) is the equivalent of 'not bearing the mark of the care of generations'.
2. For Judith Butler (2004), ethical normativity arises from the recognition of our co-dependence, our physical vulnerability to one another (p. 27). Is the mere recognition of 'links' sufficient, however, to solicit care for others, whose lives are not sanctioned by social norms as grievable? Raffles does not fail to tell us how Hesse-Honegger's research on leaf bugs may effect human suffering too. We learn, for example, how a woman who cleaned Hesse-Honegger's hotel room, close to the Hanford reactor in Washington, has become 'sick with illness that the woman attributed to unacknowledged radioactive release from the plant' (Raffles, 2010: 39). The experts, however, 'claim that health problems are purely a form of imagination or bad nourishment' (Raffles, 2010: 39). Thus, Raffles clearly provides a 'recognizable link' between the well-being of leaf bugs and human health effects and mortality rates from low-dose long-term radiation exposure, which remain largely unaccounted in the international scientific community (i.e. the International Commission for Radiological Protection [ICRP]).
3. Rather than associating affective relations with attachments and proximity (Latimer and Miele, 2013: 15), more-than-human geographers are drawing renewed attention to the non-relational, the non-thematizable (Clark, 2007; Harrison, 2007, 2008), the insensible (Yusoff, 2013), and the indeterminate (Barad, 2012; Hinchliffe, 2001; Schrader, 2010).
4. 'Abyssal intimacy' is Toadvine's translation of Derrida's French: 'A la fois intimes et abyssaux, ces rapports ne sont jamais totalement objectivables'. David Wills, the translator of '*l'animal que donc je suis'*, is undecided on the proper translation of 'intime'. In his first translation in 2002, he renders it as 'close': 'These relations are at once close and abyssal, and they can never be totally objectified' (Derrida, 2002: 399). In 2008, 'close' becomes 'intertwined' in the English version: 'These relations are at once intertwined and abyssal, and they can never be totally objectified' (Derrida, 2008: 31). I follow Toadvine, as 'intimate' works best for my purpose here to keep the resonance between ethical relations and intimate knowledges ('close' is too restrictive and 'intertwined' misses the affective dimension of these relations).
5. Michel Foucault (1990) refers to an obstinate curiosity: 'not the curiosity that seeks to assimilate what it is proper for one to know, but that which enables one to get free of oneself'. (p. 8)
6. Unlimited compassion does not imply a radical dedifferentiation of life, but suggests a different temporality of care and a new relation to mortality and finitude as outlined below. See also Butler (2009: 16), who argues that not everything included under the rubric of precarious life warrants protection from harm, such as plants.
7. Cary Wolfe (2012a) has similar worries. In his recent book, *Before the Law*, he suggests that the undifferentiated appreciation of all forms of life is untenable. 'We *must* choose', he insists, 'and by definition we *cannot* choose everyone and everything at once' (p. 103).
8. See also Wolfe (2012a) for a critique of the 'reciprocity model' in the animal rights rhetoric and Judith Butler's account of precarious life.
9. 'The zone circumscribes the disaster site and covers 30 kilometers in diameter. Zone entry is limited to the plant's workers' (Petryna, 2004: 252).
10. See also Olga Kuchinskaya (2013) on some related issues in Belarus.
11. For a Heideggerian feminist (but still anthropocentric) version of a 'future of care', see Adam and Groves (2011).
12. See also Romanillos (2011) for an account of the inherently anthropocentric conceptualizations of finitude that underlie conceptions of futurity.

13. See also Jake Metcalf (2008) on 'intimacy without proximity'.
14. Central to Latour's (2004b) 'matters of concern' are the notions of 'gathering' and 'thing' that he adopts from Martin Heidegger, which have previously been critiqued by Derrida (1994) as leaving no space for the 'other'.
15. Philosopher Leonard Lawlor (2007) speaks in this context of a 'staggered analogy' which concerns the resemblance between sufferings that have nothing in common, enabling hetero-affection that manifests itself as compassion (see also Toadvine, 2010).
16. Borrowing from Isabelle Stengers' cosmopolitics, for Latour, a common world has to be progressively composed. Latour believes in an 'arrow of time' (see Schrader, 2012 and references therein); I argue that it is his very belief in teleology, and the *progressive* composition that render his cosmos anthropocentric against efforts to affirm the contrary.
17. Raffles' (2010) comment in a book panel on his *Insectopedia* at the annual meeting for the Society for the Social Studies of Science in San Diego, October 2013.

References

Adam B and Groves C (2011) Futures tended: Care and future-oriented responsibility. *Bulletin of Science, Technology and Society* 31(1): 17–27.

Adams CJ (2010) The war on compassion. *Antennae* 14: 5–11.

Ahmed S (2004) *The Cultural Politics of Emotion*. New York: Routledge.

Barad K (2007) *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, NC: Duke University Press.

Barad K (2012) On touching: The inhuman that therefore I am. *Differences: A Journal of Feminist Cultural Studies* 23(3): 206–223.

Beisel U, Kelly AH and Tousignant N (2013) Knowing insects: Hosts, vectors and companions of science. *Science as Culture* 22(1): 1–15.

Bird Rose D (2004) *Reports from a Wild Country: Ethics for Decolonisation*. Kensington, NSW, Australia: University of New South Wales Press.

Blackman L (2010) Embodying affect: Voice-hearing, telepathy, suggestion and modelling the non-conscious. *Body & Society* 16(1): 163–192.

Braidotti R (2006) Affirmation versus vulnerability: On contemporary ethical debates. *Symposium: Canadian Journal of Continental Philosophy* 10(1): 235–254.

Butler J (2004) *Precarious Life: The Power of Mourning and Violence*. London: Verso.

Butler J (2009) *Frames of War: When is Life Grievable?* London: Verso.

Callon M and Law J (2005) On qualculation, agency, and otherness. *Environment and Planning D: Society and Space* 23(5): 717–733.

Clark N (2007) Living through the tsunami: Vulnerability and generosity on a volatile earth. *Geoforum* 38(6): 1127–1139.

Derrida J (1982) Différance. In: *Margins of Philosophy* (trans. A Bass). Chicago, IL: University of Chicago Press, 3–27.

Derrida J (1989) *Of Spirit: Heidegger and the Question* (trans. G Bennington and R Bowlby). Chicago, IL: University of Chicago Press.

Derrida J (1992) Force of law: The 'mystical foundation of authority'. In: Cornell D, Rosenfeld M and Carlson DG (eds) *Deconstruction and the Possibility of Justice*. New York: Routledge, 3–67.

Derrida J (1993) *Aporias: Dying–Awaiting (One Another at) the 'Limits of Truth'* (trans. T Dutoit). Stanford, CA: Stanford University Press.

Derrida J (1994) *Specters of Marx: The State of the Debt, the Work of Mourning, and the New International*. New York: Routledge.

Derrida J (1995) *On the Name* (trans. D Wood, JP Leavey Jr and I McLeod). Stanford, CA: Stanford University Press.
Derrida J (2002) The animal that therefore I am (more to follow) (trans. D Wills). *Critical Inquiry* 28(2): 369–418.
Derrida J (2008) *The Animal that Therefore I am* (trans. D Wills). New York: Fordham University Press.
Despret V (2004) The body we care for: Figures of anthro-zoo-genesis. *Body & Society* 10(2–3): 111–134.
Despret V (2013a) From secret agents to interagency. *History and Theory* 52(4): 29–44.
Despret V (2013b) Responding bodies and partial affinities in human–animal worlds. *Theory, Culture & Society* 30(7–8): 51–76.
Foucault M (1990) *The History of Sexuality, Vol. 2: The Use of Pleasure*. New York, NY: Vintage.
Greenhough B and Roe E (2011) Ethics, space, and somatic sensibilities: Comparing relationships between scientific researchers and their human and animal experimental subjects. *Environment and Planning D: Society and Space* 29(1): 47–66.
Grosz E (2008) *Chaos, Territory, Art: Deleuze and the Framing of the Earth*. New York: Columbia University Press.
Gruen L (2012) Navigating difference (again): Animal ethics and entangled empathy. In: Smulewicz-Zucker GR (ed.) *Strangers to Nature: Animal Lives and Human Ethics*. New York: Lexington Books, pp. 213–233.
Hansen M (2004) The time of affect, or bearing witness to life. *Critical Inquiry* 30(3): 584–626.
Haraway D (1991) Situated knowledges: The science question in feminism and the privilege of partial perspective. In: *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York: Routledge, 183–201.
Haraway D (2008) *When Species Meet*. Minneapolis, MN: University of Minnesota Press.
Haraway D (2010) When species meet: Staying with the trouble. *Environment and Planning D: Society and Space* 28(1): 53–55.
Haraway D (2011) Speculative fabulations for technoculture's generations: Taking care of unexpected country. *Australian Humanities Review* 50: 95–118.
Haraway D (2012) Species matters, humane advocacy: In the promising grip of earthly oxymorons. In: DeKoven M and Lundblad M (eds) *Species Matters: Humane Advocacy and Cultural Theory*. New York: Columbia University Press, 17–26.
Harrison P (2007) 'How shall I say it.?' Relating the nonrelational. *Environment and Planning A* 39(3): 590–608.
Harrison P (2008) Corporeal remains: Vulnerability, proximity, and living on after the end of the world. *Environment and Planning A* 40(2): 423–445.
Heidegger M (2001) *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude* (trans. W McNeill and N Walker). Bloomington, IN: Indiana University Press.
Heidegger M (2010) *Basic Writings*. London: Routledge.
Heidegger M (2012) *Contributions to Philosophy: Of the Event* (trans. R Rojcewicz and D Vallega-Neu). Bloomington, IN: Indiana University Press.
Hesse-Honegger C and Wallimann P (2008) Malformation of true bug (Heteroptera): A phenotype field study on the possible influence of artificial low-level radioactivity. *Chemistry & Biodiversity* 5(4): 499–539.
Hinchliffe S (2001) Indeterminacy in-decisions: Science, policy and politics in the BSE (Bovine Spongiform Encephalopathy) crisis. *Transactions of the Institute of British Geographers* 26(2): 182–204.
Hinchliffe S (2008) Reconstituting nature conservation: Towards a careful political ecology. *Geoforum* 39(1): 88–97.

Hustak C and Myers N (2012) Involutionary momentum: Affective ecologies and the sciences of plant/insect encounters. *Differences: A Journal of Feminist Cultural Studies* 23(3): 74–118.
Kuchinskaya O (2013) Twice invisible: Formal representations of radiation danger. *Social Studies of Science* 43(1): 78–96.
Lambert C (2012) Redistributing the sensory: The critical pedagogy of Jacques Rancière. *Critical Studies in Education* 53(2): 211–227.
Latimer J and Miele M (2013) Naturecultures? Science, affect and the non-human. *Theory, Culture & Society* 30(7–8): 5–31.
Latour B (1999) *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge, MA: Harvard University Press.
Latour B (2004a) How to talk about the body? The normative dimension of science studies. *Body & Society* 10(2–3): 205–229.
Latour B (2004b) Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry* 30(2): 225–248.
Latour B (2005) *Reassembling the Social: An Introduction to Actor–Network-Theory*. New York: Oxford University Press.
Latour B (2010) A plea for earthly sciences. In: Burnett J, Jeffers S and Thomas G, *New Social Connections: Sociology's Subjects and Objects*. New York, NY: Palgrave Macmillan, 72–84
Law J and Lien M (2013) Slippery: Field notes on empirical ontology. *Social Studies of Science* 43(3): 363–378.
Lawlor L (2007) *This is not sufficient: an essay on animality and human nature in Derrida*. New York, NY: Columbia University Press.
López D, Callén B, Tirado F and Domènech M (2010) How to become a guardian angel: Providing safety in a home telecare service. In: Mol A, Moser I and Pols J (eds) *Care in Practice: On Tinkering in Clinics, Homes and Farms*. Piscataway, NJ: Transcript-Verlag, 71–90.
Lundblad M and DeKoven M (2012) Introduction: Animality and advocacy. In: DeKoven M and Lundblad M (eds) *Species Matters: Humane Advocacy and Cultural Theory*. New York: Columbia University Press, 1–15.
Massumi B (2002) *Parables for the Virtual: Movement, Affect, Sensation*. Durham, NC: Duke University Press.
Metcalf J (2008) Intimacy without proximity: Encountering grizzlies as a companion species. *Environmental Philosophy* 5(2): 99–128.
Mol A (2008) *The Logic of Care: Health and the Problem of Patient Choice*. New York: Routledge.
Mol A, Moser I and Pols J (2010) *Care in Practice: On Tinkering in Clinics, Homes and Farms*. Piscataway, NJ: Transcript-Verlag.
Myers N and Dumit J (2011) Haptic creativity and the mid-embodiments of experimental life. In: Mascia-Lees FE (ed.) *A Companion to the Anthropology of the Body and Embodiment*. Oxford: Blackwell, 239–261.
Nancy J-L (1990) Finite history. In: Carroll D (ed.) *The States of 'Theory': History, Art, and Critical Discourse*. New York: Columbia University Press, 149–172.
Nancy J-L (2000) *Being Singular Plural*. Stanford, CA: Stanford University Press.
Petryna A (2004) Biological citizenship: The science and politics of Chernobyl-exposed populations. *Osiris* 19: 250–265.
Puig de la Bellacasa M (2011) Matters of care in technoscience: Assembling neglected things. *Social Studies of Science* 41(1): 85–106.
Puig de la Bellacasa M (2015) Making time for soil time: Technoscientific futurity and the pace of care. *Social Studies of Science* 45(5): 691–717.
Raffles H (2002) Intimate knowledge. *International Social Science Journal* 54(173): 325–335.
Raffles H (2010) *Insectopedia*. New York: Pantheon.

Rajchman J (2002) Introduction. In: Deleuze G (ed.) *Pure Immanence: Essays on a Life* (trans. A Boyman). New York: Zone Books, 7–23.

Rancière J (2004) *Politics of Aesthetics: The Distribution of the Sensible* (trans. G Rockhill). New York: Continuum.

Rancière J (2007) The emancipated spectator. *Artforum International* 45(7): 270–282.

Rancière J (2011) The politics of aesthetic indetermination. In: Smith JE and Weisser A (eds) *Everything is in Everything Jacques Rancière between Intellectual Emancipation and Aesthetic Education*. Zurich: JRP Ringier, 10–33.

Romanillos JL (2011) Geography, death, and finitude. *Environment and Planning A* 43(11): 2533–2553.

Roosth S and Schrader A (2012) Feminist theory out of science: Introduction. *Differences: A Journal of Feminist Cultural Studies* 23(3): 1–8.

Schrader A (2010) Responding to *pfiesteria piscicida* (the fish killer): Phantomatic ontologies, indeterminacy, and responsibility in toxic microbiology. *Social Studies of Science* 40(2): 275–306.

Schrader A (2012) Haunted measurements: Demonic work and time in experimentation. *Differences: A Journal of Feminist Cultural Studies* 23(3): 119–160.

Toadvine T (2010) Life beyond biologism. *Research in Phenomenology* 40: 243–266.

Wolfe C (2012b) Humane advocacy and the humanities: The very idea. In: DeKoven M and Lundblad M (eds) *Species Matters: Humane Advocacy and Cultural Theory*. New York: Columbia University Press, 27–48.

Wolfe C (2012a) *Before the Law: Humans and Other Animals in a Biopolitical Frame*. Chicago, IL: University of Chicago Press.

Yusoff K (2013) Insensible worlds: Postrelational ethics, indeterminacy and the (k)nots of relating. *Environment and Planning D: Society and Space* 31(2): 208–226.

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