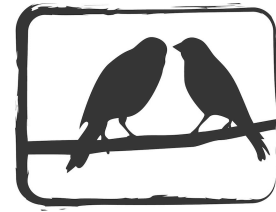




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# Ecological Community, the Sense of the World, and Senseless Extinction

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**ABSTRACT** How might a posthumanist notion of ecological community attempt to address questions concerning extinction? Such irredeemable losses are explicated through four aspects of ecological/community relations—material manifestation (appearances), material involvement (effects), semiotic resonance (meanings) and phenomenological experiences—that together constitute a broader understanding of ecological community that does not *exempt* humans from ecological effects or *except* ecology from ethical and political concerns. This ecological approach is further developed in the light of Jacob von Uexküll's phenomenological biology and Jean-Luc Nancy's concepts of *being singular plural* and the *sense of the world*.

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## Extinction is Eternal, as an Individual's Death is Eternal

The dead no longer walk or appear among the living as they once did; the worldly possibilities resident in their singular being are lost or dispersed; their significance is exposed to the whims of memory and history; the experiential opening onto the world that was theirs, and theirs alone, is extinguished; their constitutive, yet hardly fathomed, roles in the wider community fall empty. This is not to say that life will not go on, that different possibilities will not arise, that the world will cease to be made meaningful to, or experienced by, others, or that community necessarily collapses, but to notice an irredeemable loss, a loss that even eternity cannot rectify. The extinct too, like the dead, have passed their earthly time, they can no longer "be-here", they are no longer within our reach and touch. And whether speaking of a singular death or a specific extinction, these lives are ethically and quite literally *irreplaceable*, nothing will ever take their place in the world.

Extinction, of course, involves the death of singular beings, the last Great Auk shot by a trophy hunter, the last passenger pigeon in a cage in Cincinnati Zoo, but it is also a specific kind of death: It is both a species of death and a death that concerns (in all the senses just mentioned) a species of beings.<sup>1</sup> To be explicit:

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<sup>1</sup> The term species, as used here, entails no biological essentialism but simply recognises a series of more or less closely knit family resemblances, behaviours, etc. across and between individual members of a reproductively isolated population with common lineage that serve to distinguish that population from others. Where such

1) *The loss of a species of appearances in the world*—of the innumerable ways in which beings become materially manifest in the world such that others sense their presence, whether through smelling, seeing, hearing, tasting (but also all the other senses that humans have no inkling of). We might, for example, think of touching and being touched by others where “being touched by” may have both the connotation of contact, of something communicated, and/or of being emotionally touched or affected, i.e. of a presence felt at the surfaces and/or in the depths of different beings.

2) *The loss of a species of creative involvements in the world*—of their unique contributions to and effects upon others and of the material possibilities offered through their worldly interventions, whether or not others sense these involvements. The material effects of extinction can reverberate beneath the surfaces of the world like an earthquake’s seismic after-shocks.

3) *The loss of a species of significance for the world*—for everything that appears and has effects carries with it various semiotic possibilities, different ways of becoming meaningful for different beings according to their particular modes of existence. Extinction then is a curtailment of that species’ (bio)semiotic potential, where biosemiosis is understood as the production and communication of “significance” in a very broad sense, one far from being limited to any thing’s meaning for human beings.<sup>2</sup>

4) *The loss of a species of openness on the world*—of phenomenological experiences of a sensed world. For in many, and perhaps all, cases where we want to speak of death and/or extinction, those beings themselves experienced and sensed the world in certain, albeit very different, ways. Extinction entails a loss of a (relatively particular) mode of such experience, for example, of the dodo’s mode of experiencing the ecology of Mauritius.

5) *The loss of a species constitutive of ecological community*—where ecological community might be understood in terms of the combination and sharing of all these senses (appearance, effect, meaning, phenomena) of the relations between all of these and all other things that together compose the world.<sup>3</sup>

Though each of these aspects of ecological/community relations (appearances, effects, meanings, experiences) can be thought of singularly they are materially inseparable (as they are for any individual life/death), so when we think of one we should consider all the other senses along with it. The senses in which they appeared to (were present in such a way as to be sensed by) others, the sense in which they effected the world (made things happen), their sense

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distinctions are impossible then we are unlikely to be speaking of either species or their extinction, but might still want to speak of the extinction of populations, strains, etc. For a variety of perspectives on the ontological status of species see Robert A. Wilson, *Species: New Interdisciplinary Essays* (Cambridge MA: MIT Press, 1999).

<sup>2</sup> Thomas A. Seboek, *Global Semiotics* (Bloomington and Indianapolis: University of Indiana Press, 2001); Marcello Barbieri, ed., *Introduction to Biosemiotics: The New Biological Synthesis* (Dordrecht: Springer, 2008); Jesper Hoffmeyer, *Biosemiotics: An Examination into the Signs of Life and the Life of Signs* (Scranton: University of Scranton Press, 2008); Dario Martinelli, *A Critical Companion to Zoosemiotics: People, Paths, Ideas* (Dordrecht: Springer, 2008).

<sup>3</sup> Which is obviously rather different from the way ecological community is usually understood—see below.

(meaning and significance) for others, the ways they themselves sensed (experienced) the world, the senses in which they constituted a community. That is, to borrow and ecologically adapt Nancy's phrase, we need to consider how "the sense of the world"<sup>4</sup> is effected (created, brought about) and affected (changed, touched). These aspects of community can only *make sense* (things can only appear, only have effects, only be meaningful, only be experienced) in conjunction with each other *and* in terms of the creation and sharing of a world between beings (a world of appearances *and* effects *and* meanings *and* experiences). This creative sharing (the nature of which has yet to be unfurled) is how an ecological community is (relationally) constituted, and a loss to this world alters the constitution of this community irrevocably.

These senses are obviously gathered together when we consider an individual's death, especially the death of someone close. In terms of their (dis)appearance we miss the tangible evidence of their presence, looking expectantly for them in their accustomed places, catching scents that re-open memories, feeling only a void where once we held them tight. The deceased's *effects* are in no sense limited to the possessions they left behind (a car, a dog leash). They are much more elusive, intangible, and powerful. We notice things previously taken for granted but now left undone, hear tell of their involvement in events and in other's lives of which we were ignorant. The impact of their lives and their actions is impossible to fully grasp. We can only speculate what might have occurred had they lived differently, or longer, or not at all. The *significance* of their lives too is thrown into relief and re-interpreted. We gather something of the different meanings others attributed to the deceased, each according to their own history and concerns.<sup>5</sup> Then, of course, we remember how we heard tell of *experiences* they once had as a child or adult, the sights seen, the feelings felt, their happiness and anxieties. Sometimes we are drawn to imagine their final moments just before their phenomenal world faded for ever. And as we think about these relations and the roles they occupied we realise that there is actually no way of ever summing up the constitutive roles they played in sustaining and/or transforming the community of which they formed a part.<sup>6</sup> We are bereft.

How much more difficult is it to think about the extinction of a species, especially one very different to and distant from our own? Such beings may have appeared to us in very limited ways—many have certainly gone extinct without our having sensed them at all. We may know little or nothing of their activities and effects. Their significance *to us* may seem almost negligible—just a Latin name in a book. We will probably have never considered their phenomenal worlds at all. How then can we even begin to consider or evaluate their loss in terms of ecological community?

Such difficulties are compounded by various (predominant) forms of human exemptionalism and exceptionalism that allow little or no space for considering other species as parts of the *same* community as ourselves at all. Exemptionalism treats ecology and human

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<sup>4</sup> Jean-Luc Nancy, *The Sense of the World* (Minneapolis: University of Minnesota Press, 1997). I develop a more explicit and complete analysis of the ecological potential of Nancy's work in Mick Smith, "Epharmosis: Jean-Luc Nancy and the Political Oecology of Creation," *Environmental Ethics* 32, no. 4 (2010): 385-404.

<sup>5</sup> Hans-Georg Gadamer, *Truth and Method* (New York: Continuum, 1998).

<sup>6</sup> Think of how it took an angel to show George Bailey the import of his life to the people of Bedford Falls in Frank Capra's classic film *It's a Wonderful Life* (MGM, 1947).

community as entirely distinct realms, it considers humans as being(s) outside and/or above (exempt from) any ecological considerations.<sup>7</sup> Exceptionalism, whether religious or humanist,<sup>8</sup> regards human communities as distinguished by an ethics and/or politics in which no beings other than humans can possibly participate. Insofar as forms of exemptionalism and exceptionalism assume (as they usually do) that only what matters to humans matters at all (ecologically, ethically, and politically) they contribute directly to the ways in which species deemed not to matter are forced towards extinction.

Now environmentalists challenge exemptionalism and/or exceptionalism in various ways, and do so precisely on the basis of *what matters*. They remind us that “what appears to human beings is not all that appears, that what affects human beings directly is not all that has effects, that what has significance in its appearance to and effects on human beings has different significance for other beings.”<sup>9</sup> Sometimes (although less often) they also remind us that other beings too, may have their own phenomenology.<sup>10</sup> In other words they challenge what matters in terms of what appears (becomes manifest), what has (material) effects but also, and this is important, what could/should matter to (have significance for) humans in terms of *our* concerns (including our particular ethical and political concerns).

Many environmentalists focus on the implications of critiques of exemptionalism (including their ethical and political implications) using, for example, our expanding ecological knowledge concerning the knock-on, indirect, and systemic effects of species loss on human communities to urge us to tread lightly. Such critiques may also recognise that the transformative roles other species can play in human values can provide a rationale for their conservation. For example, Norton argues that cultivating interests in, and concerns for, preserving other species might induce less consumptive and materialistic values that will, in turn, help ensure humans do not drive *themselves* to extinction.<sup>11</sup> Since both those doing the ethical valuing and those ethically valued in Norton’s model are all human beings such critiques of exemptionalism clearly still accept a strong form of exceptionalism (which we might also term an ecological humanism).

More radical forms of ecology, environmental ethics, and environmental politics begin to critique human exceptionalism too.<sup>12</sup> Usually this means including other species as

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<sup>7</sup> Environmental sociologists Catton and Dunlap first used the term (human) *exemptionalist*, referring to those social theories that paid little or no attention to ecology as exemplifying a Human Exemptionalist Paradigm (HEP). My use of the term *exceptionalist* here is intended to fit with my previous work emphasising an ecological (and not just a human) reading of Agamben’s work on the “state of exception.” W. R. Catton and R. E. Dunlap, “Environmental Sociology: A New Paradigm,” *The American Sociologist* 13 (1978): 41-49; Giorgio Agamben, *State of Exception* (Chicago: University of Chicago Press, 2005); Mick Smith, *Against Ecological Sovereignty: Ethics, Politics, and Saving the Natural World* (Minneapolis: University of Minnesota Press, 2011a).

<sup>8</sup> David Ehrenfeld, *The Arrogance of Humanism* (New York: Oxford University Press, 1978).

<sup>9</sup> Mick Smith, “Dis(appearance): Earth, Ethics and Apparently (In)significant Others,” *Australian Humanities Review* 50 (2011b): 23-44.

<sup>10</sup> Although discourses of animal ethics often focus only on this aspect in terms of experiences of pain, arguments about animal consciousness, and so on.

<sup>11</sup> Brian Norton, *Why Preserve Natural Variety?* (Princeton NJ: Princeton University Press, 1987).

<sup>12</sup> Norton’s argument assumes that we should preserve other species on the basis of their “positive” transformational value for humans. But why think that preserving other species always encourages positive transformational values

members of an ethical (but usually not political) community that is, nonetheless, constituted only by human concerns (insofar as only the human species is deemed to have the potential to be ethical).<sup>13</sup> In other words, it is not just other human beings that matter ethically although what matters is still what matters ethically (in terms of appearance, effects, and significance) to humans. These ethical concerns can then, some argue, be translated into or represented within those already constituted political communities composed entirely of humans.<sup>14</sup>

Such approaches obviously retain aspects of exceptionalism, aspects that some might argue are inescapable as we are, after all, only human(s). The fact that this ecologically weakened exceptionalism, which at least incorporates a genuine environmental ethics (by which I mean regarding aspects of the environment, and not just members of our species, ethically) makes many environmentalists, including Norton, uncomfortable, surely reveals just how pervasive and powerful the ideology of exceptionalism is (at least in modern Western society). But critiques of exceptionalism might go further than awarding some other species honorary membership of the still ethically excepted community of “that which matters to humans.” Indeed perhaps they need to go much further if we are really going to take seriously the ideas that “what appears to human beings is not all that appears, that what affects human beings directly is not all that has effects, that what has significance for human beings has different significance” for others, and that other beings too may have their own phenomenal worlds. For *this* understanding of ecological community (the germ of which underlies even the least radical environmental critique of exemptionalism) explicitly emphasises that what matters in terms of the constitution of ecological community is *always* so much more than just what matters to humans.

To reiterate and elaborate: Environmentalists, of whatever ilk, recognise the vital (living) importance of the (more-than-just-human) excess found in ecological community. They *all*

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(what if the tiger from the sanctuary eats your aunt?) still less transforms our values in ways that provide an ecological argument for preserving those same species? There seems to be a circularity here, albeit it an environmentally virtuous one. If Norton’s point is that the considerations involved in preserving a particular species make us consider the bigger ecological picture (that is, make us more aware of the faults and human dangers of exemptionalism) then this *may* be the case, but that is not the same as providing an argument for preserving *any* particular species since, without an ecological ethics, these still have to be decided entirely in terms of their human benefits. There will, in any case, presumably be diminishing human returns in terms of the “ecological enlightenment” gained from every subsequent case concerning preservation, and especially for cases involving similar species (“I’ve heard this all before!”). Even if everyone finally accepted the critique of human exemptionalism (recognising that humans too can go extinct for ecological reasons) this will not necessarily encourage preservation of other species. As extinctions themselves show, nature is not actually a harmonious whole where everything is preserved so an anti-exemptionalism might also take the form of making it more socially acceptable to compete with other species more intensely for “limited resources” (“It’s us or them!”). Indeed this quasi-naturalistic view actually underlies the form of capitalism that currently produces the consumerist and materialist values Norton wants to transform. Surely it is these (selfish) values and this (capitalist and anthropocentric) system that need to be tackled head on and not least because of their driving other species to extinction. Finally, one might ask Norton what, on his anthropocentric criteria, would be wrong with deliberately making some prominent species extinct in a spectacular fashion if doing so would generate more debate about the ecological future of humanity than preserving them ever could? In other words, the critique of exemptionalism is not enough, we need a critique of exceptionalism too; we need an ecological ethics and politics.

<sup>13</sup> Such approaches can, of course, also include ethical concerns about non-living entities like rock formations, canyons, and so on. Many such concerns are place-focused.

<sup>14</sup> See, for example, Robin Eckersley, *The Green State: Rethinking Democracy and Sovereignty* (Cambridge MA: MIT Press, 2004).

have some such understanding of ecology in common but many (like Norton) only recognise this shared understanding's importance to the survival (and quality of life) of those constituting an excepted human ethical and political community.<sup>15</sup> Here, the community that matters, as a community, is a community limited to one species served by all others that matter to it only insofar as they remain useful in one way or another. But this ecological humanism seems to run counter to any emphasis placed on the constitutive diversity and generative excess that, *in every sense* mentioned above, composes an ecological community as an ecological (inter-specific) community. An ethics that considers *only* what affects one's own species is one that has taken little note of the actual ways in which ecological communities are co-constituted. Indeed, what we are presented with here is actually a rather unethical *denial* of being in community with others—the imposition of a limit on ethics—a sovereign decision to make an ethical exception of the whole of non-human nature.<sup>16</sup>

Those environmentalists who do recognise the ethical importance of other species, who are ethically concerned about the impending extinction of even apparently useless, dangerous, or insignificant beings<sup>17</sup> are, at least, more consistent than these environmental exceptionalists who simultaneously employ, and yet find themselves in (ethical) denial of, the implications of being in an ecological community. Once we accept there are (more than just human) ethical implications of being in ecological community with others, once we are exposed to such concerns, this opens further ways to weaken exceptionalism, ways that also have political implications. One way (and there are many others) of weakening exceptionalism is by recognising that it is not only humans, and apparently not all humans, that have ethical sensibilities. If ethics is also a mode in which communities can be created and constituted, a *sensibility* that allows things to appear in an other-directed loving gaze, to affect events, hearts, and minds, to open new fields of significance, to “colour” the phenomenal world, then this is not a mode that is in any sense co-extensive with the human species.<sup>18</sup>

A more radical ecology, then, means reconsidering the very sense of community (and “sense of the world”) in such a way that the senselessness of extinctions is rendered in ecological *and* ethical *and* political terms that are no longer beholden to either the exemption of the human (from ecology) or the exception of the ecological (from ethical and political community). Such considerations might be described as ecologically posthumanist,<sup>19</sup> not in the sense of envisaging what might happen to the world after humans too become extinct (as they

<sup>15</sup> Norton rejects the idea that non-human species might have value to other non-human species because he thinks “value transformations only take place in consciousness” (*Why Preserve Natural Variety?* 13) and presumably he assumes that consciousness is something only humans have. I see no good reason for thinking either of these positions are even remotely likely, or for that matter, for thinking the only values that matter to members of all other species must be “transformational” values.

<sup>16</sup> We can say this is a decision because there is nothing about ethics *as such*, as a caring *sensibility*, which means that it *has* to be limited to concerns for other humans. See Smith, *Against Ecological Sovereignty* for an extended discussion of this point and a critique of the idea of ecological sovereignty.

<sup>17</sup> For examples see Deborah Bird Rose and Thom van Dooren, eds., “Unloved Others: Death and the Disregarded in the time of Extinctions,” special issue of *Australian Humanities Review* 50 (2011).

<sup>18</sup> Marc Bekoff and Jessica Pierce, *Wild Justice: The Moral Lives of Animals* (Chicago: University of Chicago Press, 2009).

<sup>19</sup> Although not *posthumanism*, in the sense of a single unified over-arching theoretical and/or ideological perspective to rival and replace *humanism*.

most certainly will one day) but of elucidating certain worldly possibilities that emerge from critiques of human exemptionalism *and* exceptionalism together.

### A Posthumanist Excursus

Why might ecological understandings begin to move us towards post-humanist perspectives? Once it might have seemed easy to gloss extinctions as the natural outcome of the “struggle for existence” and ecology as “the [natural] science of the struggle for existence.”<sup>20</sup> Ecology, so understood would have no role “meddling” in human ethics and politics.<sup>21</sup> But things are not so simple. Such descriptions hide more than they reveal. What is it that is “natural” about extinctions induced by contemporary human activities? Indeed is anything “natural” anymore?<sup>22</sup> In what sense is there a “struggle for existence”; a struggle between who, what, when, how? Is existence naturally just that, a constant struggle without respite? Is this struggle really all that ecology is about? Can struggle and extinction be reconciled with a notion of ecological community? Are ecological communities not just a matter for (natural) “science”? What about ethical and political aspects of struggle and/or community? These are complicated questions and also questions that are deliberately complicated by a posthumanist notion of “ecological community.”

A posthumanist notion of ecological community emphasises the myriad ways that beings of all kinds, including human individuals and collectives, interact to create, sustain, and/or dissolve communities.<sup>23</sup> The posthumanist inclusion of human activities with/in ecology is not an attempt to naturalise them, reducing them to just a matter of biology, but nor does it seek to separate certain (social and cultural) fields of human action as being entirely set apart from, or superior to, those characterising all other species (that is, it seeks to weaken exceptionalism). A *post*-humanist perspective takes seriously the need to stop what Agamben refers to as the “anthropological machine”, the constant “production” of absolute dividing lines between humans and the rest of the natural world.<sup>24</sup> It recognises “the fragility and porosity of the limit between nature and culture” not so as to collapse these categories into each other (as, for example, sociobiology does) but to “multiply attention to differences” at all levels.<sup>25</sup>

<sup>20</sup> Gregory J. Cooper, *The Science of the Struggle for Existence: On the Foundations of Ecology* (Cambridge: Cambridge University Press, 2003). Ecologist David Raup suggests that 99.9% of all species that have ever existed have become extinct. Markku Oksanen, “Biodiversity considered philosophically,” in *Philosophy and Biodiversity*, ed. Markku Oksanen and Juhani Pietarinen (Cambridge: Cambridge University Press, 2004), 1-23 (9). Steven M. Stanley’s authoritative *Extinction* posits climate change as the natural cause of past mass extinctions but makes no comments on current extinction rates and no reference to the possibility of human induced climate change. Steven M. Stanley, *Extinction* (New York: Scientific American Library, 1987).

<sup>21</sup> Although, of course, capitalism’s ideologues often try to naturalise their economics, their politics, and their lack of ethics through reference to such an underlying struggle of each against all.

<sup>22</sup> Bill McKibben, *The End of Nature* (Harmondsworth, UK: Penguin, 1990).

<sup>23</sup> Smith, “Dis(appearance).”

<sup>24</sup> Giorgio Agamben, *The Open: Man and Animal*, trans. Kevin Attel (Stanford: Stanford University Press, 2004); Smith, *Against Ecological Sovereignty*.

<sup>25</sup> Jacques Derrida, *The Beast and the Sovereign, Volume 1* (Chicago: University of Chicago Press, 2009), 16, 17. The term posthuman clearly has multiple meanings, but rather than associating it directly with the “transhumanist” focus on the *technological* erosion of universal definitions of humanity, with the specifics of Haraway’s “cyborg manifesto”, and still less with programs promoting the engineered enhancement of human biological capacities (which as Wolfe (Cary Wolfe, *What is Posthumanism?* (Minneapolis: University of Minnesota Press, 2010), xv) points out is really an “intensification of humanism”, that is of what I term exemptionalism) I want to emphasise



One aspect of this, which links directly to questions about ecology's status and remit, is the posthumanist challenge to what Latour refers to as modernity's "constitution", that is, "the separation between the scientific power charged with representing things [nature] and the political power charged with representing [human] subjects."<sup>26</sup> This challenge differs from simply arguing that human political communities are ultimately dependent upon nature (ecology), for, as argued above, this anti-exemptionalism can still suggest a base/superstructure model where nature is the resource utilised and operated upon by human communities that retain a clearly circumscribed ethical and political sphere. Here, in this exceptionalist model, ecology and community are still held apart as separate although inter-connected wholes. The posthumanist approach, by contrast, suggests that a) ethical and political community no longer be envisioned as something limited to humans *qua* their being human; that any community will include all manner of different things and beings (denizens<sup>27</sup>) that are also active in constituting that community; and b) that ecology is never *just* a scientific description of the world but ineradicably a matter of ethics and politics too.

Posthumanist ecological communities connect across *nature* and *culture*, (scientific) "facts" and (ethical and political) *values*, *human beings* and *other beings*, eroding and complicating these very categories. Such connections are not to be thought of like bridges connecting separate, well defined regions, but more like the connections with/in the human body itself, between its "own" cells and the trillions of micro-organisms of more than 1000 different species, parasitic, commensal, and symbiotic, that inhabit and compose it.<sup>28</sup> For a human being is itself, already an ecological community, an admixture of different species, things, thoughts, meanings, values. Emphasising such connections begins to deconstruct the ontological certainties and absolute distinctions that have supported various forms of human exemptionalism and exceptionalism. We are ineradicably hybrid beings inhabiting hybrid geographies.<sup>29</sup>

Clearly then, unpacking the ways in which posthumanist communities may be constituted, recognised, sustained or altered is never going to be simply a matter of "community ecology" in the narrow scientific sense.<sup>30</sup> It also relates to the *meanings* and *values*

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the multiple social *and* biological ways in which the universalist anthropological dogmas of ethical and political humanism are challenged through recognising various forms of cross-species ecological community.

<sup>26</sup> Bruno Latour, *We Have Never Been Modern* (Cambridge: MA: Harvard University Press, 1993), 29.

<sup>27</sup> This term "denizens" is meant to disturb and critique (not just expand) forms of politics modelled on communities based on notions of human citizenship. Mick Smith, "Citizens, Denizens and the *Res Publica*: Environmental Ethics, Structures of Feeling and Political Expression," *Environmental Values* 14 (2005): 145-162.

<sup>28</sup> Jennifer Ackerman, "The Ultimate Social Network. Friendly Bacteria that Live in our Bodies and on our Skin Profoundly Affect our Health," *New Scientist* 306, no. 6 (2012): 36-43.

<sup>29</sup> Arturo Escobar, "After Nature: Steps to an Antiessentialist Political Ecology," *Current Anthropology* 40, no. 1 (1999): 1-30; Sarah Whatmore, *Hybrid Geographies. Nature, Cultures, Spaces* (London: SAGE, 2002). Which is not to say that I wholeheartedly endorse Escobar's particular version of "political ecology" or Latour's actor network theory (ANT) which informs Whatmore's arguments about hybridity.

<sup>30</sup> The notion of "community ecology" is itself a locus of intense scientific debate where "community" is understood, at one extreme, in terms of simple geographically located assemblages of different beings, populations, and species or, at the other extreme, in terms of highly integrated, interdependent, and cohesive superorganisms (e.g. Clements, see Peter Marshall, *Nature's Web: An Exploration of Ecological Thinking* (London: Simon Schuster, 1992), 337).

created, expressed, and suppressed within and by such communities. Contra humanistic approaches, these meanings and values may include, but are not limited to, those associated with humans. Just what this entails remains to be exposed but a posthuman notion of ecological community complicates matters for hermeneutic *and* valuational *and* ecological reasons. Moreover, the meanings and values created within and by such communities evolve; they are constantly re-interpreted, re-evaluated, re-formulated, re-produced, and re-enacted. And while such meanings and values are certainly *contested* in all manner of ways, here, as with the evolving relations between different beings, populations, and species (and with/in the human body itself) this “contest” is rarely if ever simply a matter of a “struggle for existence.” There are, for example, all manner of forms of symbiosis, symbiogenesis, commensalism, mutualism, enculturation, association, learning from/with others, sympathy, and so on varying from the most intimate to the most casual.<sup>31</sup> Indeed, this is partly why it might be appropriate to consider these complex interrelations under the rubric of ecology and of community at all rather than *just* some generalised notion of “competition.” This is also why, under certain circumstances, those concerned might sense the loss of those who cease to constitute ecological community with them as something other than just the welcome eradication of a competitor.

### **Senses of Community, Sense of Loss**

Environmental critiques of exemptionalism suggest that human beings are in community with other species whether or not they actually recognise this, whether or not they deny these ecological realities. The critique of exceptionalism (and Latour’s critique of the modern constitution) suggests that this community is ethically, politically and ecologically complicated. The ecological posthumanist suggests that we need to cease being in denial of these ethical and political complications. Understanding what this might mean obviously requires saying more about *sense(s)* of community and *senses(s)* of being lost to community through extinction. How might all the senses already iterated—the sense of (dis)appearances, the sense of effects, the sense of semiosis, the sense of phenomenology and also the complications introduced by ethical sensibilities and political sensitivities—be gathered together? How can one even begin to delimit what might, again alluding to Nancy, be termed, the “sense of the world”?

Perhaps, one might even say, the realisation of ecological community only begins to make sense through the senseless event of extinction. This pointless and irredeemable loss *touches* some of us in ways that reveal the infinite complications in trying to specify what is left in the wake of the death (finitude) of an entire mode of being(s). The ecologist (in a more than scientific sense) is someone who is touched by this loss in such a way as to mourn the toll of extinction instituted by human exemptionalism and exceptionalism. She is bereft and yet also understands that this feeling, her being touched by irrevocable loss, is itself a matter of realising the existence of a sense of an ecological *and* ethical *and* political community with other species. The species lost is not just a potential resource of which humans are deprived, but an example of *exceptional ethical irresponsibility*, one which can also incite (ethical) responsibilities and (political) resistance. (Historically, we might go so far as to say that the sense of *ecological* community could only arise *after* the recognition that species could indeed go extinct, and that human beings could be responsible for such extinctions, both things that

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<sup>31</sup> Jan Sapp, *Evolution by Association: A History of Symbiosis* (Oxford: Oxford University Press, 1994).

many of those with pre-evolutionary interests in fossils, like Thomas Jefferson, were concerned to deny since it undermined the notion of a perfectly pre-formed and unalterable natural economy.<sup>32</sup>)

Does this de-definition (this posthuman opening out) of ecological community differ from how ecology is understood scientifically? Yes and no. It certainly differs insofar as it *explicitly* recognises the ethical and political complications that those scientists who accept modernism's constitution struggle (usually unsuccessfully) to keep separate from their professional ecological activities. It suggests that these complications are irresolvable aspects of being *in* ecological community. But then this difference is, in actuality, only a matter of recognising and unfolding the wider *implications* of ecology as the "sense of the world." That is to say, to think ecologically is already, in a sense, to think in terms of community, of the ineradicability of "being-with" others, of a co-existence that, while it differs for each singular being and each species is, nonetheless, always a world from which we are never exempted so long as we exist and from which we can only except ourselves artificially (through the ruse of human(ism's) sovereignty<sup>33</sup>) and with dreadful ecological, ethical, and political consequences.

To speak of ecological community is to recognise that we are, ineradicably, "we" in something like Nancy's sense of an *Inoperative Community* and *Being Singular Plural*.<sup>34</sup> For Nancy we are always already "beings in common." Here, the singular aspect in "being singular plural" does not signify an originally pre-communal individual that subsequently goes on to construct community with others (as, for example, in social contract theory) —especially not with others just like herself, that is, with some essential thing in common, for example, their "human nature", consciousness, and so on. Similarly the plural aspect of "being singular plural" does not signify the ontological priority of something called community over singular beings, or refer to any communal essence which unites all its members. Rather the composite term is intended to bring to mind the irreducible condition of worldly existence, of a "being singular with plural others." Ecology is a reminder of a multi-species and multi-existent "we" that modern humanism chose to forget, or rather struggled to exempt and/or except the human species from. There is no way to be exempt from this community of different beings each *exposed* to each other in myriad different ways. Indeed the *in*-common of being-in-common is this exposure of each to each other and this being touched by each other.

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<sup>32</sup> Jefferson, who collected fossils and even had an extinct giant sloth named after him (*Megalonx jeffersoni*), later admitted, at least in private, that extinctions could occur. Mark V. Barrow, *Nature's Ghosts: Confronting Extinction from the Age of Jefferson to the Age of Ecology* (Chicago: University of Chicago Press, 2009), 19.

<sup>33</sup> Smith, *Against Ecological Sovereignty*.

<sup>34</sup> Nancy, Jean-Luc Nancy, *The Inoperative Community* (Minneapolis: University of Minnesota Press, 1991). I say "something like" Nancy's understanding because rather than simply adopt Nancy's terms of art which are largely developed within the context of providing an understanding and ontology of human community (of *Mitdasein*) I obviously want to adapt them ecologically (see Smith, "Epharmosis"). This is not fanciful because Nancy provides something like an ecological interpretation in *The Sense of the World*. He also remarks, for example, in *Being Singular Plural*, that his "thinking is in no way anthropocentric; it does not put humanity at the centre of 'creation'; on the contrary, it transgresses [traverse] humanity in the excess of the appearing that appears on the scale of the totality of being, but which also appears as that excess [demesure] which is impossible to totalize." (Jean-Luc Nancy, *Being Singular Plural* (Stanford, CA: Stanford University Press, 2000), 17). While I think his work is actually anthropocentric in several ways, and even retains a degree of residual human exceptionalism, it has the potential to be developed in a much more ecological way.

Being *in* common means that singular beings are, present themselves, and appear only to the extent that they compear (*comparaissent*), to the extent that they are exposed, presented, or offered to one another. This compearance (*comparution*) is not something added to their being; rather, their being comes into being in it.<sup>35</sup>

The “sense of the world” that Nancy intends is not then a conceptual grasp of an entirety (in the way that Heidegger uses an ability to grasp the world as world as yet another means to demarcate and except the human (in the form of *Dasein*) from the rest of the world’s inhabitants who are, Heidegger says, world-poor (in the case of animals) or worldless (in the case of non-living matter)).<sup>36</sup> Rather, the sense of the world *is* the touching of bodies each against the other, a touching sensed ecologically in different ways by different beings and different species of beings. So, as Derrida argues there is a sense in which

touching is not a sense, at least not one sense amongst others. A finite living being can live and survive without any other sense; and this occurs with a host of animals that have no vision (it is possible to be sensitive to light without “seeing”), no hearing (it is possible to be sensitive to sound waves without “hearing”), no taste or sense of smell ... But no living being in the world can survive for an instant without touching, which is to say without being touched ... for a finite being, before and beyond any concept of “sensitivity,” touching means “being in the world.” There is no world without touching ...<sup>37</sup>

Here, we might say, what matters in terms of the sense of the world is what touches each being in terms of the species of possibilities open to it, in terms of what appears, what affects, what has meaning, what is experienced, what ethical sensibilities that being may (or may not) have, and even what political sense our being in ecological community may (or may not) have.

Scientific ecology offers us an important glimpse of ecological community, but often through an objectifying lens that diminishes the observer’s actual placement and involvement in that community due, at least in part, to accepting a constitution which excepts it from making such evaluations. Ecosystems are mapped and energy flows measured, species at risk of extinction are enumerated. Connections are elaborated in terms of what appears to science (through repeatable experimental protocols), what effects can be measured by scientific instruments, what has meaning within scientific theories, what can be observed with eyes (cons)trained to only see “objects.”<sup>38</sup> Ethics and politics have no official place here at all.

This might suggest that scientific ecology can have nothing *ethical* or *political* to say about extinction or ecological community. Perhaps, though, conservation biology might be thought of as the ethical and political wing of scientific ecology. Interestingly, in his introductory explanation of conservation biology Michael E. Soulé, a key figure in the area, places himself ethico/politically within a narrative that explicitly seeks to resist human induced extinctions:

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<sup>35</sup> Nancy, *The Inoperative Community*, 58.

<sup>36</sup> Martin Heidegger, *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude* (Bloomington and Indianapolis: Indiana University Press, 1995).

<sup>37</sup> Jacques Derrida, *On Touching – Jean-Luc Nancy* (Stanford, CA: Stanford University Press, 2005), 140.

<sup>38</sup> Neil Evernden, *The Natural Alien: Humankind and the Environment* (Toronto: University of Toronto Press, 1999).

Conservation biology, a new stage in the application of science to conservation problems, addresses the biology of species, communities, and ecosystems that are perturbed, either directly or indirectly, by human activities or other agents. Its goal is to provide principles and tools for preserving biological diversity ... I also point out that ethical norms are a genuine part of conservation biology, as they are in all mission- or crisis-oriented disciplines.<sup>39</sup>

But, of course, conservation biology too has to present itself as thoroughly scientific for its ethical (and more covertly, its political) messages to be credible within the parameters of modernity's constitution. This creates obvious (but from a posthumanist perspective, unavoidable) tensions in its practices and pronouncements.

The version of ecological community proposed by many conservation biologists, including Soulé, is also one that, partly because of its scientific understanding, has tended to emphasise the value of species and ecosystems as something separable from a sense of being in community with each singular being. That is, it emphasises plurality (and only in the limited form of a scientific understanding of biodiversity) at the expense of singularity.

It may seem logical to extend the aversion of anthropogenic extinction of populations to the suffering and untimely deaths of individuals because populations are composed of individuals. I do not believe this step is necessary or desirable for conservation biology. Although disease and suffering in animals are unpleasant and, perhaps, regrettable, biologists recognize that conservation is engaged in the protection of the integrity and continuity of natural processes, not the welfare of individuals ... biologists often overcome their emotional identification with individual victims.<sup>40</sup>

The singular being, regarded in its singularity (including, as Soulé's words suggest, its own unique phenomenology of suffering) is perhaps, more difficult to objectify.<sup>41</sup> (Although, as so many animal experiments prove, such objectification is by no means impossible.) Any concern shown for "individuals" as subjects or quasi-subjects threatens to compromise the scientific objectivity (and hence for Soulé ultimately the potential political efficacy) of those arguing for conserving the more abstract and easily objectifiable notion of a species. "Conservation and animal welfare ... are", Soulé remarks, "conceptually distinct, and they should remain *politically* separate."<sup>42</sup>

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<sup>39</sup> Michael E. Soulé, "What is Conservation Biology?" *BioScience* 35, no. 11 (1985): 727-734 (727).

<sup>40</sup> *Ibid.*, 731.

<sup>41</sup> Evernden, *The Natural Alien*.

<sup>42</sup> Soulé, "What is Conservation Biology?" 731. My emphasis. There are certainly very important conceptual and political differences between most mainstream animal ethics and (posthumanist) environmental ethics. Although these are beyond the scope of this paper one might briefly say that, where Soulé recognises only a limited (objectivised) plurality stripped of any ethical sensibilities concerning the phenomenological experiences of non-humans, mainstream animal ethicists recognise only extremely limited (subjectivised) forms of singularity as ethically relevant based almost entirely on speculative phenomenologies i.e. what feelings a specific kind of animal might have. This, in turn, almost invariably means that ethical concerns are limited to a select number of

In any case, it is clearly the *extension* of *ethical* concerns to individuals and its association with (irrational and therefore unscientific) emotionality that worries Soulé here even though, somewhat incongruously, he does recognise that ethical concerns for populations and species are valid. Here he tries to downplay any emotionality (and any threat to objectivity) by providing “purely” scientific reasons for holding specific ethical values concerning biodiversity:<sup>43</sup> “Species have value in themselves, a value neither conferred nor revocable, but springing from a species’ long evolutionary heritage and potential or even from the mere fact of its existence.”<sup>44</sup> Even if we ignore the numerous philosophical questions raised by this understanding of species’ “intrinsic” value it is clear that Soulé awards the “integrity and continuity of natural processes” a “higher” over-arching value which actually *requires* biologists to actively work to overcome any ethical/emotional concerns for singular beings. This position seems to unnecessarily universalise a distinction (and to install a form of ethical exception) that is ethically dubious in several respects. It is obviously only tenable to the extent that one can make processes qua processes, or diversity qua diversity, the “object” of ethical concern, or of a “higher” concern that trumps all other (non-human) ethics. Leaving aside questions about the reification of processes, few of us can, I suspect, actually concern ourselves *ethically* with a process, say photosynthesis, vital as it is, without considering its actual and singular instantiations. We come to the sense of ethical community through our involvements with beings that are inherently singular *and* plural even if we understand that singularity and plurality as emerging through ecological (and ethical and political) “processes.” What we concern ourselves with is, for example, the oak tree (which is actually inseparable from its ecological relations) and if we seek to save trees like the Hinton’s oak tree (*Quercus hintonii*) from extinction then our concern does not cease when their leaves fall in winter and photosynthesis ceases.

Similarly biodiversity is not something that many could relate to ethically as a “process”, although Norton (following Wood<sup>45</sup>) makes an interesting suggestion along these lines. Biodiversity, he says, should not be thought of as “a resource among others, but as a generator—a source—of biological resources”, that is, as “a generative process”, much, he claims, as neoliberals value free markets as generators of value.<sup>46</sup> “Just as economists would find it odd to be asked, “What is the market value of a free market?” Ecologists may find it odd to think of biodiversity as a commodity.”<sup>47</sup> Now Norton’s point here is clearly to suggest that

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species that are sufficiently like “us” (phenomenologically) to warrant inclusion in already existing liberal individualist models of human ethics.

<sup>43</sup> If it’s the process that matters why, we might ask, should we even concern ourselves with individual species going extinct so long as these are not keystone species?

<sup>44</sup> Soulé, “What is Conservation Biology?” 731. If the “mere fact of existence” was enough to make something of ethical concern then it is not clear why this would not apply to individuals too, or indeed to every human artifice. And, of course, every singular being is also the result of a long evolutionary process and singular beings are entirely necessary for the “process” of evolution to “work” at all.

<sup>45</sup> Paul M. Wood, “Biodiversity as the Source of Biological Resources: A New Look at Biodiversity Values,” *Environmental Values* 6, no. 3 (1997): 251-268.

<sup>46</sup> Bryan Norton “What Do We Owe the Future? How Should We Decide?” 221. Similarly Soulé argues that “Evolution is the machine, and life is its product. One possible corollary of this axiom is an ethical imperative to provide for the continuation of evolutionary processes ...” (Soulé, “What is Conservation Biology?” 731), but actually, neither evolution nor life *per se* are endangered, only their current instantiations.

<sup>47</sup> Bryan Norton “What Do We Owe the Future? How Should We Decide?” 221.

biodiversity *per se* is not something one should translate into the commodity form, and many environmentalists would certainly agree with this. But this analogy actually raises a further question, namely what happens if and when an abstract understanding of the system in question is valued on a “higher logical plane”<sup>48</sup> than the actual outcomes it generates? What happens when, in Soulé’s terms, we have succeeded in overcoming any emotional identification with the system’s victims? The misery caused to communities and to individuals world-wide by the heartless application of free-market capitalism might thereby be taken as an excellent reason for *not* regarding these processes as something of higher value that can be separated out from concerns for the singular. Indeed this is precisely why Nancy contrasts “the sense of the world” as creation with that generated by contemporary forms of “globalization.”<sup>49</sup>

Nancy’s ontology suggests that there are other ways of thinking about these issues, not in terms of process and system but in terms of (ecological) community. We are touched by each other in myriad ways. Beings appear to us, but they never *just* appear and they never appear just to us humans. Beings have (sensed and un-sensed) effects on us, but they never just have effects on us. Similarly, the meanings things have for one species may be radically different for others, the phenomenology of their sensing the world is unimaginably varied. This biodiversity matters in all manner of ways to all manner of creatures. The ecological posthumanist recognises that these diverse matters can also matter ethically and politically, but she is not the only one to whom they matter ethically and politically; she just has a specific understanding which *might* be elucidated through the concept of “being singular plural.”

As I have argued elsewhere<sup>50</sup> one way of beginning to envisage such a posthumanist ecological community might be through Jacob von Uexküll’s “A Stroll through the Worlds of Animals and Men” (subtitled in its original translation into English “A Picture Book of Invisible Worlds”).<sup>51</sup> Indeed, the fact that this work has recently been re-translated<sup>52</sup> attests to its growing appeal to many interested in posthumanist perspectives. His phenomenological re-description of a walk through a familiar meadow opens new, and very unfamiliar, vistas that are hardly ever considered by scientific objectivism and philosophical humanism. They express, says Agamben, “the unreserved abandonment of every anthropocentric perspective in the human sciences and the radical dehumanization of the image of nature.”<sup>53</sup>

Uexküll famously asks us to imagine the diverse perceptual worlds (*Umwelten*) of the inhabitants of the meadow such as the field-mouse, earthworm, butterfly or, most notoriously, the tick, “worlds strange to us but known to other creatures, manifold and varied as the animals

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<sup>48</sup> Ibid., 221.

<sup>49</sup> Jean-Luc Nancy, *The Creation of the World or Globalization* (Albany, NY: SUNY Press, 2007).

<sup>50</sup> Smith, “Dis(appearance)”.

<sup>51</sup> Jacob von Uexküll, “A Stroll through the Worlds of Animals and Men: A Picture Book of Invisible Worlds,” in *Instinctive Behaviour: The Development of a Modern Concept*, ed. Claire H. Schiller & Karl S. Lashley (London: Methuen & Co, 1957).

<sup>52</sup> The new translation includes an insightful afterword by Geoffrey Winthrop-Young on the reception of Uexküll’s work. See also Buchanan’s thorough and thoughtful elucidation of Uexküll’s ideas and influence. Jacob von Uexküll, *A Foray into the Worlds of Animals and Humans* (Minneapolis: University of Minnesota Press, 2010); Brett Buchanan, *Onto-Ethologies: The Animal Environments of Uexküll, Heidegger, Merleau-Ponty, and Deleuze* (Albany NY: SUNY Press, 2008).

<sup>53</sup> Agamben, *The Open*, 39.

themselves.”<sup>54</sup> We are asked to think of these worlds as soap bubbles we might step into. As we slip out of our own perceptual world and enter another world “the familiar meadow is transformed. Many of its colourful features disappear, others no longer belong together but appear in new relationships with different meanings. A new world comes into being [...] the world as it appears to the animals themselves, not as it appears to us.”<sup>55</sup>

The phenomenal world of the tick, for instance, would seem entirely alien to us. Everything we see and hear would disappear, the trees, flowers, birdsong, the rustling wind, butterflies. So far as the tick is concerned the meadow we walk through hardly exists, her relation to it goes little further than climbing an available grass stem to drop on any prey that passes below. Her senses are limited to a vague photosensitivity (a sensitivity without seeing—since she has no eyes), an ability to “smell” butyric acid, (the sweat of her mammalian prey) and a sensitivity to temperature that will instigate her to drink her prey’s blood after biting (or indeed any other fluid presented to her at around 37°C, since she has no sense of taste). What appears to the tick is not, then, what appears to other species, to field mice, earthworms, humans, or butterflies. How and whether the tick appears to others depends on their specific senses. I might see her only after she becomes engorged on my blood; I did not feel her bite. What affects the tick and what effects she has on others (for instance, the diseases she might carry) may or may not be sensed in various ways by various other species. My not sensing her bite might be fatal, the earthworm not sensing her is almost immaterial. What has meaning for the tick, what Uexküll refers to as “marks of significance,” is not what has meaning for other disparate species, or at least not the same meaning, or not in the same way.<sup>56</sup> Yet the tick is constitutive of the meadow’s ecological community, she is a denizen of a world that does not exist only on one plane but is materially patterned in all these senses—apparently, effectively, meaningfully, phenomenally—gathered together, inextricably singular *and* plural.

Evolution then, from this perspective, is not so much a “process” as just the way that this patterning, the mutual exposures of each of these myriad beings, plays out through time and across generations and this is never simply the playing out of a struggle between pre-existing isolated and selfish individuals. It is very much more complicated than that. And when we begin to recognise that humans are not exempt from these relations and that ethics and politics too are modes of patterning involved in ecological appearances, with ecological effects and meanings, and which infuse phenomenal experiences in ways that are much too readily accepted as anthropologically exceptional, then we begin to approach an ecologically posthumanist understanding of community.

Does such an understanding entail that we must rush out and save ticks from extinction?<sup>57</sup> Well, first we had better recognise that there are many different tick species,

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<sup>54</sup> Uexküll, “A Stroll,” 5.

<sup>55</sup> Ibid.

<sup>56</sup> It is no accident that Uexküll’s work has been, along with Peircian semiotics, the major influence on the recent flowering of biosemiotics. Barbieri, ed., *Introduction to Biosemiotics*.

<sup>57</sup> Hatley’s fascinating discussion of our relation to ticks and their extinction notes that, despite these recorded threats, no ticks were listed on the International Union for Conservation of Nature Red List as of 2009. This omission can only be explained, he suggests, as a form of “zoomorphic bigotry.” (James Hatley, “Blood Intimacies and Biodicy: Keeping Faith with Ticks,” *Australian Humanities Review* 50 (2011): 63-75 (65)). Hatley’s paper develops an innovative argument regarding those ticks that parasitise humans. Despite their obviously detrimental effects on their human hosts he suggests that their hunger for our blood can serve to remind us of our biological



perhaps 900 world-wide, maybe many more, some 48 of which, science tells us, are regarded as being under threat of extinction due to geographically restricted ranges and/or the endangerment of their specific host species.<sup>58</sup> In other words, the tick's endangerment comes about precisely because of the very specificity and irreplaceability of their modes of touching and being touched by the particular other species on which their lives have evolutionarily come to depend, host species that are themselves in danger for reasons having little or nothing to do with their parasitic "guests" but result from other, human induced, fractures in their communities.

We might note that Uexküll himself was not specific about which kind of tick he was referring to and that the most endangered species may actually be one (*Amblyomma sphenodonti*) with a rather different *Umwelt* to that he describes, since it parasitises only the endangered tuatara, the last extant member of the entire order *Rhynchocephalia*.<sup>59</sup> The cold-blooded tuatara is *not* a lizard, although it resembles one to the untrained human eye. It is now found only on certain islands off the New Zealand coast that have remained free of the, human introduced, Polynesian rat, (*Rattus exulans*) responsible for the demise of all mainland populations. The tuatara (but not its tick!) is the subject of intense conservation efforts, including several captive breeding programs and an attempt to reintroduce it to the mainland in a heavily fenced area.<sup>60</sup> The range of the tick, however, is even more restricted than its "host" as it is found on only eight of the 28 islands with tuatara populations.<sup>61</sup> These radically different species have a co-evolutionary relation that goes back at least to the Pleistocene era which perhaps explains why the ticks *seem* to do little harm to the tuatara.<sup>62</sup> Should the tuatara go extinct, the tick will surely follow. But the loss of the tick would *probably* not affect the tuatara's chance of survival, whether individually or as a species. Does this make the loss of the tick inconsequential, or even an unexpected bonus for the tuatara who may have been trying to rid themselves of this "guest" for millions of years?<sup>63</sup>

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embodiment and our ecological and evolutionary emplacement in the world. Insofar as we might "affirm" their existence, and may even come to love those who make us suffer, we might develop a kind of biodicy rather than a theodicy. This, perhaps, has similarities to Norton's argument regarding transformational values (see footnote 12 above).

<sup>58</sup> L.A. Durden and J. E. Keirans, "Host-parasite coextinction and the plight of tick conservation," *American Entomologist* 42 (1996): 87-91.

<sup>59</sup> All three life stages of the tick apparently feed only on the tuatara. Hilary Miller, Ailis M. Conrad, Stephen C. Barker, and Charles H. Daugherty, "Distribution and phylogenetic analyses of an endangered tick, *Amblyomma sphenodonti*," *New Zealand Journal of Zoology* 34, no. 2 (2007): 97-105 (103).

<sup>60</sup> Some tuatara populations at risk were also temporarily removed from islands with rat populations while the rats were "eradicated." They were then returned.

<sup>61</sup> Miller *et al.*, "Distribution."

<sup>62</sup> Miller *et al.*, remark that "studies have shown no evidence of a negative effect of tickload on body condition of tuatara ... suggesting that removal of ticks during tuatara translocations may not be necessary. However, it should be noted that the effect of ticks on disease transmission and tuatara fitness has not specifically been investigated." ("Distribution," 103).

<sup>63</sup> The singular tick, lacking the requisite level of phenomenal experience would presumably matter little to most of those concerned with individualistic forms of animal ethics (see footnote 57) especially when its survival conflicts with the individual lives of even the commonest (but obviously much more "intelligent" and human-like) rats. Of

To save the tuatara from extinction we are forced to think ecologically. That is, we have to consider and attend to the different ways the tuatara's existence touches, and is touched by, others. When we attend to these ecological relations we find a species of tick that actually punctures the tuatara's skin to feed on its blood, and only on *its* blood. What more intimate form of touch could there be? And yet, that tick inhabits a radically different phenomenal world to the tuatara and the effects of these species on each other are also radically different. The tuatara provides the tick with its "lifeblood", while to the tuatara the ticks may just be a mild irritation if they even notice them at all. (Is this the only meaning ticks have for the tuatara?) These ecological relations are complex and in no sense equal or reciprocal or reducible to a simple metric. One species unwittingly gives, the other unwittingly takes, but the species that takes is actually the more dependent, the most at risk of extinction. Ecological communities are not really very much like exceptionalist views of human communities, they are far more complicated and so, when present, are their ethical and political dimensions.

Who, but an ecologist, would even suspect such relations? Thanks to this ecological attention, this resistance to extinction, we also discovered, although only in 1989, that there are actually two species of tuatara and not one: two species whose appearances are, presumably, indistinguishable, and a matter of little consequence for most other constituents of that ecological community.<sup>64</sup> The ecological concern for the tuatara's singularity, its being an only survivor, its unusual physiognomy with a light sensitive "third eye" on the top of its head (what differences might this make phenomenologically?), its troubled history with human cultures, its precarious island existence, and so on, all elicit a concern that is certainly a matter of ethics and not just mere scientific curiosity.<sup>65</sup> The attempt to save the tuatara is one place where the recognition of ecological community begins. And as soon as we start to think ecologically about the tuatara's singularity we are drawn to recognise plurality, its being singular plural, and not its isolation. We are drawn to recognise the plurality of its existence with myriad others, some of which are so similar that they can hardly be told apart from an external "objective" position (can even tuataras tell the difference between members of their different species/populations?), some so very different that their worlds have little or nothing in common except the way that they touch each other so very, very, intimately.<sup>66</sup>

Yet as soon as we think ecologically in terms of plurality we are also drawn to recognise singularity, whether in terms of the species or individuals. Like reptile ticks, that "use

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course, even the tuatara too would probably suffer in such a comparison and its survival as a species may count for nothing at all in this limited and limiting frame of reference.

<sup>64</sup> As of 2010 a genetic study has argued that these two species are not actually sufficiently distinct to constitute separate species but are "best described as a single species that contains distinctive and important geographic variants." (Jennifer M. Hay, Stephen D. Sarre, David M. Lambert, Fred W. Allendorf, and Charles H. Daugherty, "Genetic Diversity and Taxonomy: A Reassessment of Species Designation in Tuatara (*Sphenodon: Reptilia*)," *Conservation Genetics* 11, no. 3 (2010): 1063-1081 (1063)). *Sphenodon guntheri*, the Brother's Island tuatara was found only on that island and is smaller than *Sphenodon punctatus*.

<sup>65</sup> The parietal eye third eye has many of the features of its other two eyes (a lens, nerve connection, retina and so on) although it is visible only in juveniles and now evolutionarily reduced to a light sensitive patch.

<sup>66</sup> Appearances can be deceptive in other ways too. Although "tuatara have remained largely unchanged physically over very long periods of evolution, they are evolving—at a DNA level—faster than any other animal yet examined." *Live Science* (2012) <http://www.livescience.com/2396-fastest-evolving-creature-living-dinosaur.html> accessed 26/08/2012.

different cues for host seeking than [Uexküll's favoured] mammal and bird ticks"<sup>67</sup> *Amblyomma sphendonti* probably adopts "a 'sit-and-wait' host-seeking strategy within the host refuge",<sup>68</sup> in this case, the tuatara's burrow. In any case *Amblyomma* shows a strong preference for moist soil. (Tuatara and tick also share the burrow, they are commensal, with a species of seabird, the Fairy Prion (*Pachyptila turtur*) of which the tick may be entirely unaware.) Studies have yet to show whether *Amblyomma* can, like reptile ticks, "synchronise their detachment with times when hosts are in refuges, or with physiological cues that indicate the host is at rest"<sup>69</sup> abilities which may suggest a rather more complex sensory world than Uexküll credits them. The tuatara tick is also most active at night which may (or may not) reflect its host's nocturnal habits. In this way we begin to picture its singular way of life, nestled and closely attached within the folds of the tuatara's skin. Of course, such attention to singularity may (at least in the case of the tuatara) induce the kind of emotional and anthropomorphising tendencies that Soulé abhors, but even if it does then this may actually play a much larger role in saving the tuatara from extinction than scientific conservation biology would like to admit. Take the following BBC report:

A rare New Zealand reptile has become a father, possibly for the first time, at the age of 111. The keepers of Henry, a tuatara, had thought he was past his prime—especially after showing no interest in females during 40 years in captivity. But he mated with 80-year-old Mildred last July and 11 of the eggs she produced have now hatched. Henry's keepers have put his newfound vigour down to a recent operation to remove a tumour from his bottom ... Henry arrived at Southland Museum in the South Island city of Invercargill in 1970 and, his keepers say, soon became overweight and idle. He was known for his foul temper and had a tendency to attack other tuatara—forcing the museum to keep him in solitary confinement for many years. But since his operation, Museum tuatara curator Lindsay Hazley said he had had a "major personality transplant". "I have done lots of eggs before but these are just special because they are Henry's," Mr Hazley told the Southland Times. Tuatara, which are found only in New Zealand, are sometimes referred to as "living fossils". They are the only surviving members of a family [sic] of species which walked the Earth with the dinosaurs more than 200 million years ago. The museum now has about 70 of the rare creatures, and Mr Hazley is hopeful that Henry might provide more offspring in the future. He lives with three female tuatara "in great harmony", said Mr Hazley, and described the hatching of the eggs as "the completion of a love story".<sup>70</sup>

Unfortunately, the article does not mention if the ecological community that is Henry, and also more than just Henry, includes ticks. But thinking ecologically makes it harder to simply except Henry, his species, or his "parasites" ethically and politically from community with us, because now such beings at least appear to us, are recognised as having certain effects which go

<sup>67</sup> Stephanie S. Godfrey, Nicola J. Nelson, and C. Michael Bull, "Microhabitat Choice and Host-Seeking Behaviour of the Tuatara Tick, *Amblyomma sphendonti* (Acari: Ixodidae)," *New Zealand Journal of Ecology* 35, no. 1 (2011): 52-60 (52).

<sup>68</sup> Godfrey, Nelson, and Bull, "Microhabitat choice," 59.

<sup>69</sup> Ibid., 58.

<sup>70</sup> BBC News, "Reptile becomes a Father, at 111," accessed 23 August 2012, <http://news.bbc.co.uk/2/hi/asia-pacific/7850975.stm>

beyond what we sense, obtain richer, different, and more complicated meanings, and can affect the way we “see” the world, a world in common from which we cannot be exempted for so long as we live. While thinking about extinction might bring to mind both our own, all too short residency, as somewhat singular beings in this world (after all, eternity is a limit we all have to our being in common) it might also bring to mind the ecological plurality that precedes, informs and may (or in many cases may not) survive us. To think in terms of ecological community is to recognise “the sense of the world” in terms of such very different appearances, involvements, significances, and experiences.

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