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## **E-Co-Affectivity Beyond the Anthropocene: Rethinking the Role of Soil to Imagine a New 'Us'**

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### Abstract:

Following Isabelle Stengers' call that the anthropocene should make us *feel and think* differently, this paper focuses on the human task to shift its affective response. Since Stengers calls for a new "us" that seeks to participate in an entanglement, I propose to explore the material and ontogenetic functions of *soil*, and specifically soil pores, in reimagining a new form of e-co-affectivity. A new e-co-affective response would emphasize the usually hidden fluidity and diachronic time of pores, and, in doing so, cultivate an epistemic and aesthetic *sensitivity, deceleration, and percolation*.

[90 words]

## E-Co-Affectivity Beyond the Anthropocene: Rethinking the Role of Soil to Imagine a New 'Us'

It is up to us to create a manner of responding, for ourselves but also for the innumerable living species that we are dragging into the catastrophe, and, despite this “us” only existing virtually, as summoned by the response to be given. (Stengers, *In Catastrophic Times*).<sup>1</sup>

### Introduction

The thick, heavy soil in which we bury our loved ones carries with it deep, affective resonance. As a regenerative body, the soil provides a sense of consolation that is related, yet very different, from a memorial service. Where memorial services speak individual words and invoke distinct memories and affects as related to the unique person who is now dead, the soil touches us in a very different affective register, and draws us, even in or precisely by its concreteness, toward a wider living community of which we are all part.

The figure of soil offers us the opportunity to investigate the medium, the material in-between, the concrete interface where e-co-affectivity lives and breathes: it implies a certain place or milieu (hence “eco,” as in the Greek “oikos”) and connection to others (hence “co”).<sup>2</sup> Central to the concept of affectivity as I see it is a complex kind of causal relationship. Instead of seeing affectivity merely in terms of the passive effect of a cause, the kind of affectivity I propose puts at its center stage the receptive, responsive power of living beings to react to what happens to them, which may include their ability to participate in, and shape, how they are affected. Thus, this conception of affectivity can be understood as a kind of responsiveness or reactivity to the world. My account of affectivity speaks both to the ability to be affected and the ability to affect, and the complex relationship between the two.<sup>3</sup> It recognizes that, on an organic level, living beings become who they are through mutual interaction with, and strategic affective responses to, that which affects them.<sup>4</sup> The hyphenation I use speaks to the fact that the influence of place and community cannot be tightly distinguished from the happenings of affectivity as such: they are rather aspects of *one* phenomenon in which they

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<sup>1</sup> Isabelle Stengers, *In Catastrophic Times: Resisting the Coming Barbarism*, (Open Humanities Press, 2015), 41.

<sup>2</sup> This article is part of a bigger research project entitled *E-Co-Affectivity*, which thinks through the concrete, living places where affectivity happens. To this end, I examine, among other things, photosynthesis in plants, touch and trauma in bird feathers, the place-and-time-making qualities of the human placenta, and the medial power of human skin.

<sup>3</sup> Cf. Michael Hardt, “Foreword: What Affects Are Good For,” in *The Affective Turn: Theorizing the Social*, ed. Patricia Ticineto Clough and Jean Halley (Durham-London: Duke University Press, 2007) ix.

<sup>4</sup> With thanks to Manuel Vargas for his encouragement and suggestions in formulating this definition.

participate: e-co-affectivity. Soil provides a localized, material place to engage co-affectivity; simultaneously, I will argue that this interface is not simply an existing material place or surface, but is also a place of ontogenesis: always emerging, creative, porous, and fluid.

Contrasting soil, if only briefly, with the concept of “earth,” may serve to explain what my account is trying to do in general and what it seeks to avoid. I seek to draw attention to the concrete tangible interface that mediates and co-creates affective responses and emerging existences in ever new ways. In this, I resist the tendency for certain forms of phenomenology to be overly anthropocentric or to overlook the concrete materiality – and related science – of the phenomena that are discussed. What I am resisting in choosing soil over earth, is Heidegger’s focus on earth and his tendency to grasp earth along the lines of a native ground (“urgrund”) or “home”<sup>5</sup> specific to human culture, or to grasp it in quasi-mystical terms as the obscure ground of our abode: “the spontaneous forthcoming of that which is continually self-secluding and to that extent sheltering and concealing.”<sup>6</sup> Such renditions of earth are to me both too provincial (in the political and also in the anthropocentric sense), and simultaneously too ecstatic and transcendent.<sup>7</sup> It is for this reason that I focus on soil and its concrete, material, “messy” aspects: in being both local and global, in connecting the living and the non-living, and in giving rise to a community of co-related beings rather than simply individuated beings, the focus on soil rather than earth allows for a different kind of philosophy of affectivity. It is an account of affectivity that stands at the interface, seeking to investigate how time and place and beings emerge as they are, concretely, being affected together.

I argue that Haraway’s bifurcation between direct (mimetic) and indirect (non-mimetic) sharing of suffering is crucial to conceptualizing e-co-affectivity, including her important emphasis on the immanent materiality of sharing suffering, as well as the importance of a non-direct form of co-suffering – witnessing suffering and paying attention – with significant ethical, evaluative, and practical consequences. Still, her account in *When Species Meet* has shortcomings, in that it conceives of direct co-affectivity mostly in the realm of individuated beings

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<sup>5</sup> In embracing the term “soil” I reject a number of meanings of the term “earth” (*Erde*) as Heidegger formulates them, one of which is “the *Heimat* that is both given and yet chosen, the homeland where one has learned to come into one’s own” (John Sallis, foreword to Michel Haar’s *The Song of the Earth*, xii). Haar distinguishes four meanings of “earth” in Heidegger: 1) the obscure ground of our abode (57); 2) that which is usually called ‘nature’ (59); 3) the ‘material’ of the work (60); and 4) earth as the ‘terrestrial’ (*heimatlicher Grund*; 61). Michel Haar, *The Song of the Earth: Heidegger and the Grounds of the History of Being* (Bloomington, IN: Indiana University Press, 1993).

<sup>6</sup> Martin Heidegger, “The Origin of the Work of Art.” In *Basic Writings*, ed. David Farrell Krell (New York: Harper Collins 2008), 174.

<sup>7</sup> In his elucidation of the meaning of earth in Heidegger, Haar writes: “Earth which founds art and sustains habitation loses its tangible and purely material or natural obviousness. Communicating with the withdrawal of being, it opens a space which, escaping historical mutations, abides unscathed” (Haar, *The Song of the Earth*, 14).

interacting with each other in a current time and place; relatedly, her account of indirect co-affectivity is oriented too much toward a specific intersubjective and ethical setting.

My argument is that the interface of soil changes the question of access and the conceptual schema of co-affectivity. Since the interface of soil is both the local underpinning for our lives and deaths (and thus direct and physical) and a theme within the global network within which we are connected with all living and non-living beings (and in that sense indirect) it accesses a broader, different form of affectivity. This different form of e-co-affectivity is focused on ontogenesis versus being; it is one that fosters a form of regenerative non-cognitive, material affectivity that births and buries us all; it is one that in its direct touch still leaves open precious pores to contest boundaries between what is and what is not; and, finally, it opens up to a temporality and a place beyond that of human temporality, thus drawing consolation and hope for a time and place beyond the anthropocene. I will argue that a new affective regime beyond the anthropocene can only be brought about by both 1) direct interaction with the proximate interface of soil, allowing for different kinds of individuations, and 2) indirect interaction with the interface of soil, allowing the trope of soil to move us toward a more percolative, inventive, and regenerative existence within a broader ecological community.

### 1. Mimetic and Non-Mimetic Sharing of Suffering in Haraway's *When Species Meet*

Human beings' learning to share other animals' pain nonmimetically is, in my view, an ethical obligation, a practical problem, and an ontological opening. Sharing pain promises disclosure, promises becoming. The capacity to respond may yet be recognized and nourished on this earth (Haraway, *When Species Meet*).<sup>8</sup>

At one step removed, compassion provides an opening to *mediate and filter how and that* we are affected, involved, and moved by others' suffering. Since it is the case that we, as humans, all suffer and are undone in grief and mourning, Judith Butler has argued that the recognition of suffering and grief in others may allow us to feel a shared humanity, a shared "social vulnerability."<sup>9</sup> In *Precarious Life*, Butler addresses the dynamics of being undone in mourning, and how mourning, along with desire, underlines that rather than being autonomously constituted, we are always also relationally constituted as well as "dispossessed" by our relationships.<sup>10</sup>

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<sup>8</sup> Haraway, *When Species Meet*, 84.

<sup>9</sup> Judith Butler, *Precarious Life: The Powers of Mourning and Violence* (New York, Verso, 2004), 20. To feel and extend suffering to others, and to regard suffering as a central feature for rethinking the basis of humanity, has been a crucial theme in Butler's work of the last fifteen years. Cf. Judith Butler's works *Antigone's Claim: Kinship Between Life & Death* (New York: Columbia University Press, 2000), and her *Precarious Life: The Powers of Mourning and Violence*.

<sup>10</sup> Butler, *Precarious Life*, 24.

Haraway offers a way to connect Butler's ideas on mourning and sharing suffering to the issue of sharing suffering with non-human others. In *When Species Meet*, Haraway talks about the important difference between mimetic and nonmimetic sharing of pain in the context of lab animals suffering harm. Haraway differentiates mimetic sharing of suffering – i.e. “taking the place of the victim,” from what she calls *true* sharing of suffering: “Sometimes, perhaps, ‘taking the place of the victim’ is a kind of action ethically required, but I do not think that is sharing.”<sup>11</sup> For Haraway, to truly share suffering, we must use a *non-mimetic approach*, which implies carefully and ethically paying attention as a witness. Sharing suffering with those made unequally vulnerable implies an engagement that “has to be material, practical and consequential, the sort of engagement that keeps the inequality from becoming commonsensical or taken as obviously okay.”<sup>12</sup>

Thus, Haraway's account of sharing suffering takes note of the need to *pay attention to suffering* and to take our *response* seriously, so as to invoke “the mundane grace to eschew separation, self-certainty, and innocence even in our most creditable practices that enforce unequal vulnerability.”<sup>13</sup> Accordingly, in her thinking about practices with lab animals and their suffering, she asks us to “do the work of paying attention and making sure that the suffering is minimal, necessary, and consequential.”<sup>14</sup>

Haraway's discussion of mimetic and non-mimetic sharing reveals the importance of *reflective affective mediation* for making sharing suffering true and productive. Over against those thinkers and activists such as Simone Weil who argue that the suffering of others needs to be felt (mostly) directly,<sup>15</sup> Haraway's account pushes us to recognize that non-mimetic sharing of suffering can serve to 1) think through inequalities in suffering,<sup>16</sup> 2) translate sharing suffering into practical and ethical action, ultimately allowing for lessened suffering,<sup>17</sup> and 3) provide impetus for the education and art of paying attention to suffering.

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<sup>11</sup> Haraway, *When Species Meet*, 72.

<sup>12</sup> Haraway, *When Species Meet*, 77.

<sup>13</sup> Haraway, *When Species Meet*, 75.

<sup>14</sup> Haraway, *When Species Meet*, 72.

<sup>15</sup> Weil says “The suffering all over the world obsesses me and overwhelms me to the point of annihilating me. The only way I can release myself from this obsession, is to take on a large share of danger and hardship myself. That alone can save me from being wasted by sterile grief.” (*An Encounter with Simone Weil*, directed and written by Julia Haslett. 2012, USA, 85 min.).

<sup>16</sup> Nussbaum discerns an “obvious propensity for self-serving narrowness” within the felt nature of pity, given its tendency to be focused on those close to us, within national boundaries (Compassion and Terror, 191). Nussbaum's argument thereby intersects with Butler's argument in *Precarious Life*, who similarly pleads for us to imagine grief outside of national boundaries, and contemplating why certain lives are deemed grievable and others not (Judith Butler, *Precarious Life*, 32).

<sup>17</sup> Konstan speaks of the issue of “translating compassion into practical and ethical action.” Konstan, 187. David Konstan, “Pity, Compassion, and Forgiveness: The

While Haraway, in *When Species Meet*, clearly delineates how such forms of shared suffering should come about in the context of enlightened lab practitioners, the task for us, in this paper, is to question what Haraway's call for sharing suffering means for an e-co-affective local-global community to be. In his book *Flight Ways*, Thom van Dooren offers us the technique of telling *narratives*, creating a space for mourning and grief,<sup>18</sup> to carve out the possibility of sharing suffering with species that are on their way to becoming extinct.<sup>19</sup> By telling such stories we may position ourselves in a different affective place and reconnect: "to relearn the world and our place in it."<sup>20</sup> For Van Dooren, this also means that, individually and collectively, we are asked "to face up to the dead and to our role in the coming into being of a world of escalating suffering, loss, and extinction."<sup>21</sup>

Van Dooren's emphasis on grief and relearning our place in the world connects up with Haraway's account of non-mimetic suffering: in both cases we are not simply just involved in someone else's suffering, but we reach a mediated affective space where we *reposition* ourselves, take responsibility, and become changed along the way.

Still, there are important shortcomings to the above approach of co-suffering, even if it allows us to feel our own vulnerability and aligns us with the suffering of others through pity or grief. One such shortcoming may be that, as the early Stoics and Adam Smith already noted, co-suffering in the form of compassion is too narrow-minded and "binds us to our own immediate sphere of life,"<sup>22</sup> without seeing others in similar need for attention, and without productive consequences. Along these lines, Hannah Arendt argued that compassion is, politically speaking, irrelevant and problematic, since it forces us into silence and does not invoke "persuasion, negotiation and compromise" needed for law and politics.<sup>23</sup>

For this project on e-co-affectivity, where I seek to address the need to participate in and connect with the ways that other kinds of species and beings are

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Moral Terrain." In *The Politics of Compassion*, ed. Michael Ure and Mervyn Frost (New York: Routledge 2014) 179-188.

<sup>18</sup> Thom Van Dooren, *Flight Ways: Life and Loss at the Edge of Extinction* (New York: Columbia University Press, 2014), 126.

<sup>19</sup> Van Dooren, in an email correspondence with Haraway, asks: "how might we actually inhabit a shared space of suffering with them ['critters'], and to what end?" As cited in Haraway, *When Species Meet*, 331, fn 5.

<sup>20</sup> Van Dooren, *Flight Ways*, 141.

<sup>21</sup> Van Dooren, *Flight Ways*, 143.

<sup>22</sup> Nussbaum discusses in *Upheavals of Thought* the various critics of compassion, ranging from the early Stoics to Adam Smith. She summarizes their critique, arguing compassion "binds us to our own immediate sphere of life, to what has affected us, to what we see before us or can easily imagine. This means...that it distorts the world: for it effaces the equal value and dignity of all human lives, their equal need for resources and for aid in time of suffering." Martha Nussbaum, *Upheavals of Thought: The Intelligence of Emotions* (Cambridge: Cambridge University Press, 2001), 360.

<sup>23</sup> Hannah Arendt, *On Revolution* (New York: Penguin, 1990), 86-87.

affected, not just on the local, but on the *global* level, this objection of shortsightedness surely resonates. Thus, the focus so far on the individual, psychological, and cognitive aspects of indirect, or non-mimetic suffering, might be insufficient to address the broader, global needs of the wider ecological community in danger. This especially resonates given the thought that e-co-affectivity ideally should speak not only to local, individuated concerns, but to the broader need to be affected differently by the totality.

Another important objection, particularly relevant to this paper, is that the accounts of mimetic and non-mimetic sharing of suffering so far formulated are geared at contemporaneous *human* beings, with particular discrete and concrete, finite attributes. Is there a way to envision, beyond the anthropos of the present moment, and even beyond the anthropocene, a form of e-co-affectivity that speaks to a different future, to different possibilities, and possibly to a new ‘us’? And is there a way to conceive of this new ‘us’ as emerging both out of a direct, material *and* indirect interaction with the affectivity and suffering of non-human others? Especially since the anthropocene as geological and temporal era seems to exceed our human place and timescale, such a new ‘us’ might need to be envisioned. If so, what might the future geological and temporal era and that new ‘us’ possibly look like? And what material interface might grant us such new opportunities? This is what the next section of this paper will take on.

## 2. The New ‘Us’ and the Art of Paying Attention

Amid the ongoing and ever accelerating ecological tragedies of the anthropocene, perhaps more accurately called the capitalocene,<sup>24</sup> Isabelle Stengers zooms in on the human task to shift its affective response. Stengers appeals to us to make us *feel and think* in line with *naming*<sup>25</sup> Gaia’s intrusion.<sup>26</sup> In naming that which has been provoked as Gaia (i.e., a “ticklish assemblage of forces”<sup>27</sup>) and Gaia’s consequent reaction as “intrusion,” i.e. as being “blind to the damage she causes, in the manner

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<sup>24</sup> The term “capitalocene” was first coined by Jason Moore. See “ Anthropocene, Capitalocene, and the Myth of Industrialization,” Part I. World-Ecological Imaginations, accessed April 8, 2018, <https://jasonwmoore.wordpress.com/2013/05/13/anthropocene-or-capitalocene/>. Cf. also Donna J. Haraway, “Anthropocene. Capitalocene, Plantationocene, Chthulucune: Making Kin,” in *Environmental Humanities* 6 (2015), 159-165.

<sup>25</sup> Seth Denizen also emphasizes the importance of the nominative process for constructing a new ontology, and he does so in conjunction with the topic of bringing about, through rhetoric, the thing “hold in the ozone layer,” and the thing “soil” that was previously seen identical to rock. Seth Denizen “Three Holes: In the Geological Present.” In *Architecture in the Anthropocene: Encounters Among Design, Deep Time, Science and Philosophy*, ed. Etienne Turpin (Ann Arbor: Open Humanities Press 2013). <http://dx.doi.org/10.3998/ohp.12527215.0001.001>. 7, 10.

<sup>26</sup> Stengers, *In Catastrophic Times*, 43.

<sup>27</sup> Stengers, *In Catastrophic Times*, 46.



of everything that intrudes,”<sup>28</sup> Stengers does not claim that these names are true, but at least these names have “the power to *make us feel and think* in the mode the name calls for.”<sup>29</sup> Instead of hearing one domineering, human voice that answers the question of what is to come,<sup>30</sup> she argues we need to take into account “the voices of many peoples, knowledges and earthy practices.”<sup>31</sup>

Gaia’s intrusion, for Stengers, steers us to learn to respond and to relearn the *art of paying attention*.<sup>32</sup> This “[c]reates an obligation to imagine, to check, to envisage consequences that bring into play connections between what we are in the habit of keeping separate. In short, making ourselves pay attention in the sense that attention requires knowing how to resist the temptation to separate what must be taken into account and what may be neglected.”<sup>33</sup> Paying attention, for Stengers, implies going beyond habitual ways of making distinctions, and, instead, making room for the interstitial space out of which creativity and new habits (of thinking and feeling) might arise. This is not merely a task for the individual: as her focus on naming already indicates, Stengers is looking for a collective movement: she calls for the “collective reappropriation of the capacity for and art of paying attention.”<sup>34</sup> This also implies seeking out other narratives that allow for “new modes of resistance,” “which refuse the forgetting of the capacity to think and act together that public order demands.”<sup>35</sup>

The new ‘art’ of paying attention needs to go hand in hand with a new ‘us,’ that can “‘face’ Gaia – that is, face the difficult task of participating in an entanglement, the ticklish, touchy character which we are just beginning to understand.”<sup>36</sup> The stories that allow us to imagine this new ‘us’ should *decenter*

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<sup>28</sup> Stengers, *In Catastrophic Times*, 43. Stengers describes this intrusion as a reaction to Gaia being offended: “And the response that Gaia risks giving might well be without any measure in relation to what we have done, a bit like a shrugging of the shoulder provoked when one is briefly touched by a midge. Gaia is ticklish and that is why she must be named as a being. We are no longer dealing (only) with a wild and threatening nature, nor with a fragile nature to be protected, nor a nature to be mercilessly exploited. The case is new. Gaia, she who intrudes, asks nothing of us, not even a response to the question she imposes” (Stengers, *In Catastrophic Times*, 46).

<sup>29</sup> Stengers, *In Catastrophic Times*, 43.

<sup>30</sup> Stengers, *In Catastrophic Times*, 50.

<sup>31</sup> Stengers, *In Catastrophic Times*, 50.

<sup>32</sup> Stengers, *In Catastrophic Times*, 62.

<sup>33</sup> Stengers, *In Catastrophic Times*, 62.

<sup>34</sup> Stengers, *In Catastrophic Times*, 77.

<sup>35</sup> Stengers, *In Catastrophic Times*, 77. Stengers examines one such narrative, that of the expropriation of ‘commons.’

<sup>36</sup> “Stengers, “Matters of Cosmopolitics: On the Provocations of Gaïa: Isabelle Stengers in Conversation with Heather Davis and Etienne Turpin,” in *Architecture in the Anthropocene*: ed. Etienne Turpin, 2013.

anthropos without seeking substitution:<sup>37</sup> instead, such stories, for Stengers, have “no entity at the center of the stage. This does not preclude ‘responsibility,’ but carries the sense of being able to respond.”<sup>38</sup>

For Stengers, one of the topics that can help us ‘face’ Gaia is that of the commons, its expropriation,<sup>39</sup> and the question of what ‘making common’ means.<sup>40</sup> For this investigation, I suggest that thinking through the material and ontogenetic function of *soil* is crucially important to reimagine ‘us’ participating in a new affective entanglement, where entanglement, following Stengers, indicates “entangled coexistence,” i.e. the emergence of constellations that are not to be grasped as a system of functionality and of parts and whole, but rather as assemblages due to “bricolage,” i.e. the construction or creation from a diverse range of available things.<sup>41</sup>

### 3. Soil and Soil Pores: An Engagement of Soil Science and Plato’s *Symposium*

Until the 1870’s, soil was mostly conceptualized as an inert layer, the leftover residue of rocks. Only later did soil acquire the status of an active and ontogenetic boundary surface, as “a process in itself, in which a system of layers critical to life on Earth grows out of fine rock particles.”<sup>42</sup> Accordingly, researchers have increasingly described soil in terms of both destructive and generative processes, and soil itself has been defined as “the interface between lithosphere, atmosphere, hydrosphere, and biosphere.”<sup>43</sup> Ranging from rocks (the lithosphere) and gas (the atmosphere) to liquid (the hydrosphere) and life (the biosphere), soil is an interface on both a macro- and micro-level. Considered from a macro-level, soil is a “reaction layer between rocks and the chemical, physical and biological environment at the atmosphere-lithosphere interface.”<sup>44</sup> And from a micro-level, we can argue that soil, qua soil, *includes* all these spheres as components of itself (i.e. rocks, air, water, and

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<sup>37</sup> Stengers’ proposition is in that regard different than what Puig de la Bellacasa suggests, namely, following Boum and Hartemink, to put “the living earth” in a central position, “from which are derived the limits within which human societies can develop. María Puig de la Bellacasa, “Encountering Bioinfrastructure: Ecological Struggles and the Sciences of Soil,” *Social Epistemology* 28, no. 1 (2014): 31.

<sup>38</sup> Stengers, “Matters of Cosmopolitics.”

<sup>39</sup> Stengers, *In Catastrophic Times*, 79-89.

<sup>40</sup> Stengers, *In Catastrophic Times*, 89.

<sup>41</sup> Cf. Isabelle Stengers, *Cosmopolitics* (Minneapolis: University of Minnesota Press, 2010), 34. For instance, in her account of ecology, Stengers argues that ecology is “not a science of functions,” but that populations and their formation and functions need to be seen as products of bricolage: “all we can say of which is that it “works more or less,” and not of a calculation whose economy and logic would have to be disclosed.”

<sup>42</sup> Denizen, “Three Holes: In the Geological Present,” 12.

<sup>43</sup> Nyle C. Brady & Ray R. Weil, *Elements of the Nature and Properties of Soils*, Third Edition, (Upper Saddle River: Prentice Hall, 2010), 9

<sup>44</sup> Robert Minard Garrels, *A Textbook of Geology* (New York: Harper & Brothers, 1951) 24.

living organisms); individual soils mix those worlds – of rock, air, water and living beings<sup>45</sup> – in different proportions.<sup>46</sup> The complexity and productivity<sup>47</sup> of such interactions cannot be understated, and in this regard soil is similar to other intricate environments such as estuaries.<sup>48</sup>

Perhaps surprisingly, the functioning of soil depends for approximately fifty percent on soil pores<sup>49</sup>: the mostly invisible interstitial places that form its connective tissue.

[S]paces in soil that are not occupied by soils are called pores. Actually, they are not void; they are filled with either air or water, or both, depending on the soil moisture content and condition of rainfall and irrigation. Roots and soil organisms, both macro- and microflora and fauna, occupy these pores.<sup>50</sup>

This textbook definition establishes the contradictory nature of pores by first defining pores as void of soil, only to subsequently define them in terms of their many functions – absorbing and percolating water and air, providing space to roots and soil organisms – that make soil such a dynamic interface. There is a conceptual hesitancy to make that which is non-solid (and thus that which is not firm, unstable in shape and with gaps) part of the definition of soil. Still, as Brady and Weil confirm, “the spaces between the particles of solid material are just as important to the nature of a soil as are the solids themselves. It is in these pore spaces that air and water circulate, roots grow, and microscopic creatures live.”<sup>51</sup>

The conceptual hesitancy to rethink the nature of soil in terms of its interstitial pores parallels the need to provide an ontology of substances and to neglect the material, ontological in-between that makes distinctions between solid versus dynamic (and being vs. non-being) fluid and problematic, for instance by

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<sup>45</sup> Brady and Weil, *Elements of Nature and Properties of Soils*, 11.

<sup>46</sup> The relative proportions of these four components greatly influence the behavior and productivity of soils. In a soil, the four components are mixed in complex patterns. Cf. Brady and Weil, *Elements of Nature and Properties of Soils*, 15.

<sup>47</sup> Shiva cites a Danish study, which found in a cubic meter of soil the following: “50,000 small earth worms, 50,000 insects and mites, and 12 million roundworms. A gram of the soil contained 30,000 protozoa, 50,000 algae, 400,000 fungi, and billions of individual bacteria.” Vandana Shiva, *Soil Not Oil: Environmental Justice in a Time of Climate Crisis* (London: Zed Books, 2008), 97.

<sup>48</sup> Brady and Weil, *Elements of Nature and Properties of Soils*, 9.

<sup>49</sup> Brady and Weil describe this well: “although a handful of soil may at first seem to be a solid thing, it should be noted that only about half the soil volume consists of solid material (mineral and organic); the other half consists of pore spaces filled with air or water” (*Elements of Nature and Properties of Soils* 15).

<sup>50</sup> Khan Towhid Osman, *Soils: Principles, Properties and Management* (Dordrecht: Springer, 2013) 56-57.

<sup>51</sup> Brady and Weil, *Elements of Nature and Properties of Soils*, 15.

linking them through porous boundaries.<sup>52</sup> Along these lines, Merleau-Ponty encourages us to “see as things the intervals between things themselves,” allowing us to perceive “another world.”<sup>53</sup> And Derrida, in his writings on the conceptual boundaries between animal and human, pleads for “limitrophy”: thinking about “what feeds the limit, generates it, raises it, and complicates it.”<sup>54</sup>

What would happen if we come to see soil’s pores differently, perhaps by following a speculative path rooted in Greek etymology<sup>55</sup> of the term *poros*?<sup>56</sup> And specifically, what results if we trace pores back to Plato’s definition of the Greek God Poros in the *Symposium*? In Plato’s *Symposium*, Diotima recounts to Socrates the origin of love (Eros), the divine spirit who is born of the male God Poros, and the female spirit Penia. Poros is the god of intense pursuit and resourcefulness, and Penia is the embodiment of need and poverty.<sup>57</sup> Resembling his father Poros, Eros

[i]s a schemer after the beautiful and the good; he is brave, impetuous and intense, an awesome hunter, always weaving snares, resourceful in his pursuit of intelligence, a lover of wisdom through all his life; a genius with enchantments, potions, and clever pleadings.<sup>58</sup>

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<sup>52</sup> Jacques Derrida, *The Animal That Therefore I Am* (New York: Fordham University Press, 2008), 29.

<sup>53</sup> Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge Classics, 2002), 18.

<sup>54</sup> Jacques Derrida, *The Animal That Therefore I Am*, 29.

<sup>55</sup> The standard definition of pore, as the OED defines it, is “a minute interstice between particles of matter esp. in soil or rock.” *The OED Online*, Version 2016, accessed February 9, 2017. As for its Greek etymology, OED writes: “ancient Greek πόρος passage, channel in the human body.” The full etymology as given by OED is the following: Etymology: < Middle French pore opening in the skin (end of 13th cent. in Old French), interstice in porous matter (c1400 or earlier), duct (1478 or earlier as porre ), stoma (1765) and its etymon post-classical Latin porus passage, channel in the human body (4th cent.) < ancient Greek πόρος passage, channel in the human body, pore < the same Indo-European base as fare v.1 Compare Old Occitan por (c1350; Occitan pòre), Catalan porus, (now nonstandard) poro, †por (13th cent.), Spanish poro (c1250), Portuguese poro (14th cent.), Italian poro (a1311).”

<sup>56</sup> Henry George Liddell and Robert Scott, *A Greek-English Lexicon* (Oxford: Clarendon Press, 1996), 1450-1451. Liddell and Scott articulate 4 main meanings in the ancient Greek: 1) pathway or passage (through the sea, body, etc.); 2) with the genitive: way or means of achieving, accomplishing or discovering, 3) journey, voyage, 4) personified as father of Eros, Poros.

<sup>57</sup> Plato, *Symposium*, in *Plato on Love*, ed. C.D.C. Reeve., trans. Alexander Nehamas and Paul Woodruff (Indianapolis/Cambridge: Hackett Publishing, 2006), 203d.

<sup>58</sup> Plato, *Symposium* 203d.

If we follow this line of thought, pores are not to be thought of as unsteady, empty and discontinuous spaces, but instead as places of pursuit and resourcefulness. And certainly when we grasp that pores are embedded within a whole *network* of pores, they emerge as channels and places for connectivity – “weaving snares,” as Plato would call it. Moreover, pores – as reflective of Poros’ status as parent of love (Eros) – point at a channeling of energy to a new generation, to a new demonic existence that is always in movement.<sup>59</sup> This demonic existence of the in-between (*metaxu*) lets Eros and other *daemons* serve as messengers and hermeneutic mediators between finitude and transcendence. As mediators, they do not just shuttle back and forth, but actually constitute and *connect*, i.e. *hold together*, that which is finite and that which transcends it: “Being in the middle of the two, they [spirits, *daemons*] round out the whole and bind fast the all to all.”<sup>60</sup>

By birthing Eros, Poros’ resourcefulness becomes productive in the lives of finite, material beings through their constant erotic *quests*:

He [Eros] is by nature neither immortal nor mortal. But now he springs to life when he gets his way; now he dies – all in the very same day. Because he is his father’s son, however, he keeps coming back to life, but then the resources he acquires always slip away, and for this reason Love is never completely without resources, nor is he ever rich.<sup>61</sup>

If Poros’ nature is to give birth to a fertile, demonic existence that is immersed in finitude and yet breaks through it, then the soil’s pores and what they enable gesture toward a complex combination of finitude, fertility, and generational transcendence. This complex form entails both the limitations of those finite beings involved in it, as well the creative cultivation of nearly unlimited, yet unthought and unfelt, possibilities enabled through the rupture of finite time.

In sum, focusing on soil as mediating interface for a new ‘us’ is effective in that it offers us a way to imagine a joint, participatory material body that connects – weaves snares – between all of us, yet does so in a way that does not homogenize and overpower. Rather, it empowers invention, resourcefulness and creativity through that which moves, while being itself non-firm, unstable and liminal. It may thus allow for the formation of a non-anthropocentric ‘us,’ whose name and being is yet-to-be determined. This would be a Latourian ‘us’ where human agency is not only part of a larger constellation, but mediated and transformed in such a way that we may no longer call such agency by the current name of “human.”<sup>62</sup>

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<sup>59</sup> Plato, *Symposium*, 203e.

<sup>60</sup> Plato, *Symposium*, 202e.

<sup>61</sup> Plato, *Symposium*, 203e.

<sup>62</sup> Stengers argues: “I make a strong distinction between a ‘Latourian us’ to be composed, who might possibly become able to ‘face’ Gaïa—that is, face the difficult task of participating in an entanglement, the ticklish, touchy character which we are just beginning to understand—and the ‘us (moderns, Euro-Americans, Western, whatever) for whom the very idea of this task distastefully intrudes, for those whose

Secondly, soil presents us with an embodiment of an archetypal reaction surface, constantly transforming and reconfiguring itself with incredible resourcefulness. It allows us to see time and place as in-motion, constantly shifting, entailing different temporal and spatial directions. Finally, as an emergent porous body full of opportunities, soil seems to *create* and nurture place and time, rather than the opposite: being the “space” or “place” or “time” in which things are placed. The next section will elaborate on these remarkable dimensions of time and space as they pertain to soil.

#### 4. Soil, Place and Temporality, and Re-Intervening with Soil

Thinking of soil, and soil pores, on a temporal level holds potential benefit as a prism for shaping a new us. By grasping both the synchronic and diachronic time of soil, soil’s temporality lends perspective to our finite human phenomenologies. It has been estimated that “it takes 700 to 1,500 years to generate an inch of soil, or 300 to 600 years for a centimeter of soil.”<sup>63</sup> If this is true, then the temporality of soil provides an important contrast to human temporalities, and provides an alternative imagining beyond the minuscule timescale of human, finite time. Moreover, the temporality afforded by soil not only confronts us with its profound and complex past, but also with rich, emergent possibilities yet to come. Rebecca Hill, reading Irigaray’s work on the interval, adds important insights here, relevant to understanding the temporal complexity of soil and, specifically, soil pores:

[T]he interval is a threshold that gestures towards the impossibility of mastering place and time. Why? The past inscribed through and as place remains beyond recuperation in the present, and the futures inscribed as place cannot be anticipated by definition.<sup>64</sup>

Soil pores certainly serve as synchronous limits, holding and limiting content thereby constituting place and time in the present; pending size and depth of placement, each percolates in its own time. For example, large pores allow for “fast infiltration and percolation of water” and small ones have “strong attractive forces to hold water in the pore.”<sup>65</sup> In terms of place, pores are the discrete transit points between the various material ‘spheres’ of soil, thereby suturing the (seemingly) uniform space of soil.

Pores represent and enable diachronic time, a time of slow yet continuous change that we cannot usually readily perceive. For that reason, much like Irigaray’s

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hairs stick up when they hear the word Gaïa.” Stengers, “Matters of Cosmopolitics,” 2013.

<sup>63</sup> Daniel C. Fouke, “Humans and the Soil,” in *Environmental Ethics* 33 (Summer 2011): 150.

<sup>64</sup> Rebecca Hill, *The Interval: Relation and Becoming in Irigaray, Aristotle, and Bergson* (New York: Fordham University Press 2012) 66.

<sup>65</sup> Khan Towhid Osman, *Soils: Principles, Properties and Management* (Dordrecht: Springer, 2013), 57

conception of the interval, each pore “is a sensible, porous, and mobile threshold to pasts and to futures that cannot be recuperated or anticipated or said to have being. The interval remains in radical excess of calculation and definition in the inflexible form of a traditional concept.”<sup>66</sup> Such radical excess, beyond the concrete now, is also applicable to the place of pores: pores, while constituting definite, concrete spatial limits, also have constant movement and interchange between them, thus influencing beyond their own limits that which passes through them.

That pores hold such a mobile threshold to the past becomes particularly apparent with the development of biopores, which are “macropores created by roots, earthworms, and other organisms.”<sup>67</sup> Due to the passing of worms, or the death and decay of plant roots, biopores could be said to contain carved-out traces of the past, constituting the limitations of the present while enabling soil’s future; these pores enable the fruition of new life by channeling nutrients and providing a vibrant, dynamic place for plant roots and microorganisms to grow, die, and recycle.

Similar to this conception of the interval, soil pores transcend typically human, short-term reckoning with time. Is there a way to transform our current sense of human temporality to be more responsive to the temporality of the soil? What would such responsiveness look like?

If we take into account the slow, emerging time of soil’s origin in combination with its porous, percolating nature, then human practices that engage with such enduring soil temporality and porosity include current popular initiatives such as the shift to “slow food”<sup>68</sup> or even, more generally, “slow living” and “slow movement.”<sup>69</sup> Other, similar practices include increased composting of household green waste (another way of using our own waste to “re-invent” soil), the use of green manure, and, in the context of urban construction, keeping current vegetation as “undisturbed” as possible, preserving topsoil for “reapplication,” and re-engineering soil after construction, aiming to ensure its quality.<sup>70</sup> Additionally,

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<sup>66</sup> Hill, *The Interval* 72.

<sup>67</sup> Brady and Weil, *Elements of Nature and Properties of Soils*, 122.

<sup>68</sup> Carlo Petrini, *Slow Food Nation: Why Our Food Should Be Good, Clean, and Fair* (New York, NY : Rizzoli Ex Libris, 2013), 11. Petrini describes his visit to one of the farming families involved in the “Quali Project,” a project which reintroduces amaranth in a poor, increasingly desert-like area in Mexico. Petrini seeks to illustrate how emphasis on locally grown, sustainable crops may provide farmers stability based on a local economy while also recuperating their own traditional indigenous cuisine.

<sup>69</sup> The Slow Movement website addresses both the cultural need for increased connectivity and the need for slowing down. This is discussed in greater detail at <http://www.slowmovement.com/>

<sup>70</sup> Cf. <http://www.sustainabletechnologies.ca/wp/home/healthy-soils/>

farming practices<sup>71</sup> that rely on long-term tilling<sup>72</sup> would need to be minimized. Thus, pleas have been made on behalf of “conservation tillage” which decreases soil tillage and keeps the organic residue intact. Many of these suggested changes in farming – less tilling and green manure, for instance – are slowly but surely making their way into mainstream farming, thus indicating that even within the overarching capitalist framework of modern agriculture,<sup>73</sup> such changes *can* be incorporated, especially when farmers see the immediate *financial* benefits of these changes, such as through increased monetary yield connected with improved soil fertility and decreased soil erosion.<sup>74</sup>

Still, while the above strategies are promising as we seek to be more responsive to the temporal structures of the soil, they seem to uncritically assume that we need to forsake technology and return to pre-industrial techniques such as no tilling. However, do not some current technology-infused strategies, even if limited in their scope and technological imagination, show us that we *can* engage geological temporality more responsibly without turning back the clock on modern forms of life? These strategies include the use of GPS, Web based Apps, and everyday robotics.<sup>75</sup> For instance, the implementation of satellite navigation may “boost efficiency and cut soil loss by dispersing seed for a cover crop between rows

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<sup>71</sup> Osman articulates the advantages and disadvantages of farming practices rather conservatively: “Soil management practices such as tillage, irrigation, fertilizer and manure application, liming, and cropping patterns all have positive and negative impacts on soil structure. Over-tilling, over-irrigation, and mono-cropping damage soil structure” (*Soils: Principles, Properties and Management*, 55).

<sup>72</sup> Brady and Weil stipulate how short-term tilling has radically different effects, also with regard to porosity, than long-term tilling. “In the short term, stirring the soil often allows it to dry out faster and also mixes in large quantities of air.” [...]. “In the long term, however, tillage may reduce macroporosity” (Brady and Weil, *Elements of Nature and Properties of Soils*, 207).

<sup>73</sup> Vandana Shiva casts the current ecological and food crisis in terms of oil vs. soil: “the industrialized, globalized food system is based on oil; biodiverse, organic, and local food systems are based on living soil. The industrialized system is based on creating waste and pollution; a living agriculture is based on no waste. The industrialized system is based on monocultures; sustainable systems are based on diversity.” Vandana Shiva, *Soil Not Oil: Environmental Justice in a Time of Climate Crisis* (London: Zed Books, 2008), 104.

<sup>74</sup> More farmers are abandoning plowing, allowing for more productive soil. Cf. <https://www.nytimes.com/2015/03/10/science/farmers-put-down-the-plow-for-more-productive-soil.html>

<sup>75</sup> Sites such as FarmHack cater to sharing such inventions to small-scale farmers. Andrew Revkin provides a good overview of such technologies in this December 4, 2014 article in the NY Times: *Dot Earth* (blog); “On Smaller Farms, Including Organic Farms, Technology and Tradition Meet,” December 14, 2014, [https://dotearth.blogs.nytimes.com/2014/12/04/on-smaller-farms-including-organic-farms-technology-and-tradition-meet/?\\_r=1](https://dotearth.blogs.nytimes.com/2014/12/04/on-smaller-farms-including-organic-farms-technology-and-tradition-meet/?_r=1).



of corn plants well before the corn is harvested.”<sup>76</sup> Solar-powered tractors have been developed in conjunction with modern apps that help farmers “keep track of plantings, harvests, and yields.”<sup>77</sup> And, if we think along the lines of recent bio-engineering technologies that make use of natural microbial consortia to improve soil fertility, or technologies that wean plants off their dependence upon fertilizers, we can push this line of argumentation even further: is there precisely not a distinct need for a form of technics, for a form of prosthesis, that *mediates and re-engineers* our access to geological temporality and changes the agricultural system accordingly?

The progressive development and imagination necessary to push such technologies to an innovative level admittedly takes time, as generations of farmers need to shake up their old habits, usually acquired over decades from the previous generations. Often, older generations must die before new habits can truly take hold. As one farmer says: “One of the toughest things about learning to do no-till is having to unlearn all the things that you thought were true.”<sup>78</sup> Still, human dependence on soil stands at a critical threshold, with a future looming over us precariously as much as it holds promise. How might we, using the trope of soil, envision a less precarious, more hopeful, future?

## 5. Moving Beyond the Anthropocene: Soil and the New ‘Us’

What belongs properly to human societies is the question raised by its interstices, at the risk that some social answers to this question may turn against their culture... (Isabelle Stengers, *Thinking with Whitehead*).<sup>79</sup>

In search for the new ‘us’ that, following Stengers, can “face the difficult task of participating in an entanglement,”<sup>80</sup> the material and ontogenetic functions of soil and its pores may offer us ways to imagine ourselves beyond the anthropocene,<sup>81</sup>

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<sup>76</sup> Revkin, “On Smaller Farms, Including Organic Farms, Technology and Tradition Meet.”

<sup>77</sup> Revkin, “On Smaller Farms, Including Organic Farms, Technology and Tradition Meet.”

<sup>78</sup> Erica Goode, citing McAlister, in “Farmers Put Down the Plow for More Productive Soil,” *NY Times*, March 9, 2015, <https://www.nytimes.com/2015/03/10/science/farmers-put-down-the-plow-for-more-productive-soil.html>.

<sup>79</sup> Stengers, *Thinking with Whitehead: A Free and Wild Creation of Concepts*, 328.

<sup>80</sup> “Matters of Cosmopolitics: On the Provocations of Gaïa: Isabelle Stengers in Conversation with Heather Davis and Etienne Turpin,” in *Architecture in the Anthropocene: Encounters Among Design, Deep Time, Science and Philosophy*, ed. Etienne Turpin, 2013, <http://dx.doi.org/10.3998/ohp.12527215.0001.001>.

<sup>81</sup> As Haraway writes in “Anthropocene, Capitalocene, Plantationocene, Chthulucune,” we should seek to keep the anthropocene as a geological time as short as possible: “I think our job is to make the Anthropocene as short/thin as

inspiring hopes for a new future and new indexical 'we.' Haraway calls for a new epoch, that of the chthulucene, to imagine such a different future. She bases her chosen term for the new epoch, the chthulucene, upon the Greek roots *chthōn* and *kainos*; with *chthōn* referring to the Greek term for earth, land, and country.<sup>82</sup> With *chthōn* Haraway specifically means "beings of the earth, both ancient and up-to-the-minute [...] replete with tentacles, feelers, digits, cords, whiptails, spider legs, and very unruly hair."<sup>83</sup> *Kainos* refers to time, particularly the sense of what Haraway calls "a thick, ongoing presence."<sup>84</sup>

While there is a close intimacy between my approach and Haraway's, especially given her focus on *chthōn* as related the earth,<sup>85</sup> I suggest, if only playfully, that my argument instead calls for the *soilocene*, to index that I seek an alternative way of being temporalized by the interface of the soil rather than through the figure of individuated animal beings living *in* the earth or beneath its surface as indicated by *chthōn*.<sup>86</sup>

By suggesting the *soilocene* rather than the *chthulucene*, I share Haraway's aim for a future beyond the anthropocene, yet seek to shift her focus on a particular (tentacular) form of life after which we might model ourselves and our future to that of the material and ontogenetic interface of soil. This gestures a shift from figure to interface: rather than thinking from the perspective of individuated critters living in the earth, my focus on soil offers an example of a participatory material body that

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possible and to cultivate with each other in every way imaginable epochs to come that can replenish refuge" (160).

<sup>82</sup> Liddell and Scott, *Greek-English Lexicon*, 1991.

<sup>83</sup> Haraway continues: "Chthonic ones romp in multicritter humus but have no truck with sky-gazing Homo. Chthonic ones are monsters in the best sense; they demonstrate and perform the material meaningfulness of earth processes and critters." Haraway, *Staying with the Trouble*, 2.

<sup>84</sup> Haraway, *Staying with the Trouble*, 2.

<sup>85</sup> Haraway, *Staying with the Trouble*, 57. Another example of affinity between my approach and Haraway's can be found in Haraway's allusions to compost. As Haraway's focus on compost shows, she is very much in line with a co-emergence and a sense of re-generative "composting" that allows us to move forward: "The unfinished Chthulucene must collect up the trash of the Anthropocene, the exterminism of the Capitalocene, and chipping and shredding and layering like a mad gardener, make a much hotter compost pile for still possible pasts, presents, and futures."

<sup>86</sup> If I were to develop this further, beyond the confines of the current argument, I might suggest the term "solioecene," using the Latin root for soil and ground, *solium*. The use of this Latin variation of soil is intended to direct us away from its current instantiation and alert us to soil's unexplored past, as well as its possibilities yet to come. The OED provides as etymology for soil: "< Anglo-Norman soil, soyl in sense 2b (1292–1305), apparently representing Latin solium (whence also Old French soil, suel : see soil n.2), taken in the sense of Latin solum (French sol) ground. For Scots forms see also sulye n." *The OED Online* 2016, accessed February 26, 2017.

itself is not one but many in unity, while still bridging divisions between non-living and living matter: an affective interface that as much as it houses life simultaneously *invents it*. Due to this, the soilocene can effectively express the need to be affected by a *totality*, rather than extending compassion from one being to another – one tentacle at a time. Because of this, it equally satisfies what Haraway seeks, namely the project of “making kin,”<sup>87</sup> albeit in an even more co-affective, communal, material sense.

The soilocene has the additional benefit of emphasizing the importance of *sym-pathesis* and its ensuing middle voice. While Haraway draws our focus on how the chthulucene will enable *sym-poiesis*, which, in her words, “enfolds autopoiesis and generatively unfurls and extends it,”<sup>88</sup> my project, while closely connected in affinity to Haraway’s, shifts the focus from the subjective act of doing things in community (*sym-poiesis*) to *being communally and locally affected (sym-pathesis)* and co-emerging together. *Sympathesis*, in being rooted in *paschein* and thus the root verb for affectivity, has the advantage of emphasizing that any process of emergent generation is not simply dependent upon individual actors that are already established and act-in-collaboration, but is rather dependent upon a co-affective process out of which emergent beings unfold and become.

Finally, as a temporal and spatial reaction surface that constantly transforms and reconfigures itself, soil allows us to see time and place in motion, perpetually changing. More particularly, in having multiple layers and thus different senses of place and time (duration), soil yields different temporal and spatial directions and thus different places, pasts and futures.

In short, soil’s meaning as interface (and its figurative capacity to link together many entities as well as various temporalities and localities into a new community to be) is promising. Still, the following questions remain: how can we shake up our habits,<sup>89</sup> break through regimes of feeling, and allow ourselves to be co-constructed differently?<sup>90</sup> How can affective and aesthetic cuts, these

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<sup>87</sup> This requires, according to Haraway, making “oddkin,” if we want to stay with the trouble. For, “we require each other in unexpected collaborations and combinations, in hot compost piles. We become-with each other or not at all.” Haraway, *Staying with the Trouble*, 2. Sahlins writes the following about kinship: “This, then, is what I take a ‘kinship system’ to be: a manifold of intersubjective participations, which is also to say, a network of mutualities of being.” Marshall Sahlins, *What Kinship Is – And Is Not* (Chicago & London: The University of Chicago Press, 2013), 20. Deborah Bird Rose, in *Reports from a Wild Country*, speaks of how, for the aboriginal worldview, “kinship includes the natural world” and extends into land. Deborah Bird Rose, *Reports from a Wild Country: Ethics for Decolonisation* (Sydney, NSW: UNSW Press), 2004, 187.

<sup>88</sup> Haraway focuses on *sympoiesis*, “making with,” to indicate “worlding with,” and being in company: “Sympoiesis enfolds autopoiesis and generatively unfurls and extends it” Haraway, *Staying with the Trouble*, 58.

<sup>89</sup> Stengers, *In Catastrophic Times*, 24.

<sup>90</sup> In “The Body We Care For,” Vinciane Despret discusses how in certain animal-human interactions we do not just collaborate, but come to co-constitute each other.

“revolutions of our senses” as Rancière calls them, happen? And how can we be more aware of this in-between, multilayered, spatio-temporal connective interface? How can we allow for the development of trust,<sup>91</sup> specifically one that indicates one’s affirmative engagement in a community that transcends that of humans? On what soil are we standing or should we be standing? How can we preserve the emphatic middle voice of soil, with its implied destituent power, without losing traction on the meaning and function of human intervention? What emergent possibilities may be created for us once we imagine ourselves created and produced by the material interface of soil, with its mutually implicating spaces?

Stengers’ reading of Whitehead, and specifically her analysis of Whitehead’s concept of the interstice, offers an important suggestion for how we may allow this new ‘us’ to emerge. For Whitehead, “life lurks in the interstices of each living cell.”<sup>92</sup> And since life, for Whitehead, implies originality and creativity, Stengers analogously argues that only societies that are perceptive to the interstices that bound and ground them can tolerate originality and creativity:

[W]hen a society mobilizes for war, the interstices become imperceptible, and all originality is suspected of treason. Only a society that does not define the environment on which it depends as a threat can tolerate originals.<sup>93</sup>

A culture that embraces its interstices and the imaginations and questions of doubt it holds, would “open a human collectivity to an outside whose intrusion suspends habitual social functioning,”<sup>94</sup> and allow such interstices “to propagate themselves,” fruitfully leading to “disobedience and desertion.”<sup>95</sup>

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Both human and animal become “available to the transformation of their identities” (122). Similarly, I want to argue, we should seek to become available to be transformed by the figure of soil. Cf. Vinciane Despret, “The Body We Care For: Figures of Anthro-Zoo-Genesis,” in *Body and Society* 10, nos. 2-3 (June 2004): 111-34.

<sup>91</sup> While Adriaan Peperzak words this mostly in an intersubjective, human context, much can be learned from his emphasis on *participation* as crucial to the phenomenon of trust: “[t]rust creates a kind of participation between you and me, and this changes my life, including my feeling, working, and thinking, at least in some aspect and to a certain extent” (10). The generation of trust takes time, based as it is on past experiences and with an orientation towards the future: “Trust testifies to our dependence; it implies gratitude for the present result of a cooperative past and hope that things will continue to function well.” Adriaan T. Peperzak, *Trust: Who or What Might Support Us?* (New York: Fordham University Press, 2013) 80.

<sup>92</sup> Alfred N. Whitehead, *Process and Reality: An Essay in Cosmology*, corrected edition by D.R. Griffin and D.W. Sherburn (New York: Free Press, 1979), 105-106.

<sup>93</sup> Isabelle Stengers, *Thinking With Whitehead*, trans. Michael Chase, (Cambridge, Mass: Harvard University Press, 2011) 327.

<sup>94</sup> Stengers, *Thinking with Whitehead*, 328.

<sup>95</sup> Stengers, *Thinking with Whitehead*, 332.

Following Stengers' ideas, and tracing the import of soil's successful dependence on its vibrant pores, a new 'us' may thus appear by allowing interstices to "make themselves felt,"<sup>96</sup> as these are the places where "new possibilities of relevance lurk."<sup>97</sup> Here lies the opportunity to reconstitute ourselves and our perceptions, to bring about new alliances, to break down barriers while constituting a new 'us'; all while simultaneously keeping in mind questions of race, class, gender, and species, as much as bios writ large. It is also here where the interstitial cracks may be widened and conceptually intersect with the ambitious vision of Plato's *eros*. Plato's *eros* shows us how the realm of the in-between is immersed in finitude and yet breaks through it: Plato's *eros* shows us that the in-between is fertile with new opportunities that ever emerge as well as disappear. If trust, as Stengers argues, "is one of the many names for love," and that one can "never be indifferent to the trust you inspire,"<sup>98</sup> then Plato's focus on the role of love as dynamically emerging in the in-between may inspire us to put trust in the dynamic, porous interface of soil and to trust the possibilities and new modes of existence arising out of the soil, rather than imposing on them all too familiar categories of human sapient meaning that stifle its fertility and block its ever becoming anew.

Along with an aesthetic and epistemic sensitivity to the interstitial boundaries of our culture and nature, our society is in need of aesthetic and epistemic *deceleration and percolation*. A culture can only become perceptive to its interstices once it slows down, relearns patience and develops endurance. This cannot be a culture that only privileges and lives by chronological standardized time, with its "imperialist regime"<sup>99</sup> that dominates and homogenizes all other forms of time and life. As Jonathan Crary persuasively shows in his book *24/7*, the kind of time we currently encounter is this: *24/7* is "a time without time, a time extracted from any material of identifiable demarcations, a time without sequence or recurrence."<sup>100</sup> This is a homogenized kind of time, dictated by capitalism and its injunctions to constantly perform and to be "on" non-stop: it inscribes into human life "a duration without breaks, defined by a principle of continuous functioning. It is a time that no longer passes."<sup>101</sup> In this world of *24/7*, there is no longer any place for deceleration, unplugging, and sleep. The consequence of *24/7*, is, according to Crary, "the sweeping abandonment of the pretense that time is coupled to any long-term undertakings, even to fantasies of "progress" or development. An illuminated

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<sup>96</sup> Stengers, *Thinking with Whitehead*, 437.

<sup>97</sup> Stengers, *Thinking with Whitehead*, 484.

<sup>98</sup> Isabelle Stengers, "God's Heart and the Stuff of Life" Conference, 1996. As cited in: Vinciane Despret, "The Body we Care For," 122..

<sup>99</sup> Frieling speaks of the "imperialist regime of standardized time." Rudolf Frieling, Curator, Text Accompanying Artwork *The Refusal of Time*, by William Kentbridge. SFMOMA, Exhibited February 2017.

<sup>100</sup> Jonathan Crary, *24/7: Late Capitalism and the Ends of Sleep* (New York: Verso, 2014), 29.

<sup>101</sup> Crary, *24/7*, 8.

24/7 world without shadows is the final capitalist mirage of post-history, of an exorcism of the otherness that is the motor of historical change.”<sup>102</sup>

Thus, Crary diagnoses that the post-industrial capitalist underpinnings of 24/7 deprive us of the opportunity for long-term undertakings, since it offers a world merely identical to itself without offering room for alternate temporalities and discernment of social and ethical valuations.<sup>103</sup> We can only change our form of experiencing time, if we rethink our economic and political regimes. Along these same lines, Stiegler argues that we can only resist such a homogenized, and constantly accelerating, form of temporality, and “save time,” if there is a “transvaluation of the industrial economy.” Only then may we be propelled into a new epoch, provocatively and dialectically called the *Neganthropocene*:

The Anthropocene is unsustainable: it is a massive and high-speed process of destruction operating on a planetary scale, and its current direction must be reversed. The question and the challenge of the Anthropocene is therefore the ‘Neganthropocene.’<sup>104</sup>

For Stiegler, the *Neganthropocene* can only be brought about once we employ negentropic forces that, precisely by using alternative forms of technology, transform the speed of current “technological vectors” (merely aimed at increasing entropy) and, literally, allow us “to save time.”<sup>105</sup>

Should we pay closer attention to the meaning of the term ‘percolation,’ it becomes clearer what cultivating such a new form of receptivity entails. Percolation is the process of “causing a liquid to permeate through a porous body or medium.”<sup>106</sup> The force behind the action, the quality of the medium, the size of its pores, and the contact time all matter. Given this, cultivating an epistemic and aesthetic sensitivity toward percolation implies sensitivity to the *organization* of our affective experience: for instance, awareness of the kind and the size of the forces that drive it toward or away from percolation, its filtering capacity (what it

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<sup>102</sup> Crary, *24/7*, 9.

<sup>103</sup> Crary, *24/7*, 19, 33.

<sup>104</sup> Bernard Stiegler, “Escaping the Anthropocene,” Lecture at Durham University, January 2015, 3.  
[https://www.academia.edu/12692287/Bernard\\_Stiegler\\_Escaping\\_the\\_Anthropocene\\_2015\\_](https://www.academia.edu/12692287/Bernard_Stiegler_Escaping_the_Anthropocene_2015_)

<sup>105</sup> Bernard Stiegler, “Escaping the Anthropocene,” 11. By emphasizing negentropic forces, he criticizes the notion of entropic, i.e. static and closed, systems and favors instead dynamic systems aimed at diversification.

<sup>106</sup> Cf. OED entry percolation: “the action of causing a liquid to percolate through a porous body or medium; (Pharmacol. and Biochem.) the process of obtaining an extract by passing successive quantities of a solvent through pulverized plant material until all the soluble material has been extracted; an instance of this.”  
The *OED Online*, Version 2016, accessed March 2017.

eliminates and keeps and on what basis), and the contact time (speed) it provides to process experiences.

If we link this thought to soil and its temporality, while following soil's enduring diachronic trail, a new 'us' would be inclined to create space for a more reflective, percolative, and patient temporal existence, one where possibilities slowly yet steadily emerge out of coincidental assemblages,<sup>107</sup> and where multiple directions and opportunities unfold simply through the gradual passing of time. Making space for this alternative, decelerated, more percolative form of temporality does not preclude urgent action or intervention on the part of current humans: on the contrary, unlearning our own habits, and shaping new ones,<sup>108</sup> requires the pressing, active work of adapting to a new form of receptivity.

It is here where the various theorists addressing the importance of "paying attention" to suffering come together. Haraway's account of sharing suffering and paying attention in *When Species Meet* alerts us to the inescapable fact of our participatory existence, and levels ethical injunctions at us to care for the non-human other and to alleviate and minimize the suffering of others we may have caused. Stengers and Stiegler articulate another way in which paying attention to the suffering of others is important, and do so at the macrolevel. For Stengers, paying attention to ecological devastation can be mobilized through different epistemologies and languages, and by carefully choosing names and concepts we may gain traction – and alter – our feelings and habitus in light of the catastrophe we face. Stiegler, for his part, also focuses on this macrolevel, but addresses the need for change to our political-economic systems, which have transformed our affective register and have suspended our creativity and abilities to pay attention to what really matters. According to Stiegler, only through this transformation to our affective regime can we install the Neganthropocene.

The proposed vision for a new 'us' seems improbable, if it were not that our predicament calls for this possibility to be realized immediately, especially now, especially here, at the edge of the anthropocene. Similar to recent artistic renditions, including those of Indian artist Tejal Shah that show the possibility to find beauty by embracing the post-apocalypse and dancing on heaps of filthy garbage,<sup>109</sup> the possibility of creating a new 'us' will be difficult, but, perhaps, not impossible. Soil and its pores point the way and provide a living, connective tissue: beyond the concrete and discrete individual, here and now, refusing homogeneous space and standardized chronological time, they direct us toward other places, toward other

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<sup>107</sup> For Stengers, slowing down, "is multi-critter thinking, caring for entanglement, learning the art of paying attention." Stengers, *Matters of Cosmopolitics*."

<sup>108</sup> Smudgestudio is one of the artist collectives that seeks to connect us to such a deeper notion of time. See the curatorial statement: "We believe that as works made in response to geologic time become more common, human capacities to design, imagine, and live in relation to deep time will expand." Smudge Studio, accessed April 4, 2017, <http://smudgestudio.org/>.

<sup>109</sup> I owe this reference to the insightful presentation by Amanda Boetzkes at the Annual Meeting of IAEP at SPEP, Salt Lake City, October 2016. This video is part of the *Between the Waves* cycle by Tejal Shah, shown at DOCUMENTA 13.

times, toward solidarity with other beings, toward unexpected assemblages and gatherings,<sup>110</sup> aiming at a future yet unimaginable, but hopefully full of liquidity, deceleration, and percolation.

## Conclusion

For Gaston Bachelard, “[a] material image dynamically experienced, passionately adopted, patiently explored, is an *opening* in every sense of the word, in its real sense and its figurative sense.”<sup>111</sup> This is exactly what I think the focus on soil accomplishes: soil is inescapably tangible and material in its reality, yet enigmatic and porous as well. For that reason, it serves not only as an example of a material interface we always already engage with, but also as a powerful metaphor, not only to re-imagine but to change our affects and discourses. Comparable to how certain terms and metaphors such as ‘immunity’ suddenly keep hold of discourses and change our practices, similarly, so is my hope, can the metaphor of soil, following Blumenberg’s idea of metaphors, reach down into the substructure of thought and existence,<sup>112</sup> and thus initiate a new way of living, feeling, acting, and thinking.

However, in my view, the levels of direct and indirect interaction with the affectivity of the soil may converge if we look at soil from the broader lens of our political and economic context. If it is the case that, following the ideas of Stiegler, the industrial capture of attention systematically “deforms our attention,”<sup>113</sup> then there is reason to think that we can, once again, *foster* and *reform* attention,<sup>114</sup> and rescue and remake “savoir faire,” i.e. “knowledge of how to make and do,”<sup>115</sup> if there is a change to current political and economic regimes so as to allow for different ways of (psychic and collective) individuation.

What we need, I argue with Stiegler, is thus a new “politics of individuation,<sup>116</sup>” one which refers to the materiality and community of the soil and intervenes with it creatively and responsibly, fostering attention for long-term goals and dreams that have currently been blocked by the short-term vision and

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<sup>110</sup> Thus, whereas Puig de la Bellacasa pleads for “new affective entanglements with invisible workers of the soil,” my argument is broader and more future-oriented in that it aims to use the trope of the soil to imagine new affective entanglements yet to come. Cf. Puig de la Bellacasa, “Encountering Bioinfrastructure,” 35.

<sup>111</sup> Gaston Bachelard, *Earth and Reveries: An Essay on the Imagination of Matter*, trans. Kenneth Haltman (Dallas: Dallas Inst. Humanities & Culture, 2002), 24.

<sup>112</sup> Robert Savage’s Afterword to Hans Blumenberg, *Paradigms for a Metaphorology*, 2010. (Cornell University Press, 2010), EBSCO Publishing: eBook Collection 81.

<sup>113</sup> Bernard Stiegler, “Automatic Society, Londres février 2015, *Journal of Visual Art Practice* 2016, 15 (2-3), 192-203, 192

<sup>114</sup> Cf. Stiegler, “Automatic Society,” 199.

<sup>115</sup> Bernard Stiegler, “Automatic Society,” 192.

<sup>116</sup> Bernard Stiegler, “Automatic Society,” 199.



accelerated yet stunted temporality of 24/7 that diminishes and blocks interstitial time and place. As we intervene with the interface of soil, we need not to exclude new forms of technics. On the contrary, following Simondon and Stiegler, new prosthetics may be key to successful and more responsible interjections.

Contemporary Danish-Icelandic artist Olafur Eliasson illustrates the possibility to intervene creatively with soil by making “quasi shapes” out of it, stacked up high like walls. His artwork *Soil Quasi Bricks (2003)* is made of fired compressed-soil tiles and wood.<sup>117</sup> This quasi brick is “both irregular (at the ends) and regular (the hexagonal section) [which] gives any structure made of quasi brick a chaotic aspect, not seen, for instance, when stacking cubes.”<sup>118</sup> Eliasson writes: “The overall shape changes according to how you stack the quasi bricks. So they’re quasi shapes, being always open to other ways of building with them. They incorporate time in a way.”<sup>119</sup> In stacking the tiles, there is an element of “unpredictable production,” which ensures that the artwork is “only constituted in the mesh in which it’s entangled and exchanged.” It is this element of the non-prescribed and non-predictable that Eliasson names “quasi.”<sup>120</sup> While Eliasson does not address this directly, it is my view that by building these non-prescribed, regular-irregular artworks with soil, Eliasson adds an element of fragility, depth, and unique texture into his artworks, ensuring that temporality is even more visible as a “co-producer of the quasi-project.”<sup>121</sup>

Eliasson’s artwork illustrates the possibility to engage soil through technics, incorporating soil in his quasi shapes to build walls consisting of both regular patterns as well as open, unpredictable, chaotic ways in which the soil bricks emerge. His artwork shows that careful engineering of the soil<sup>122</sup> can be both

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<sup>117</sup> The prototype for the brick is based on a study of the I5SSDO, “a 12-faced space-filler built on the rhombic triacatahedron.” Olafur Eliasson, “Ólafur Elíasson, Anna Engberg-Pedersen, and Philip Ursprung,” in *Studio Olafur Eliasson: An Encyclopedia* (Köln: Taschen, 2016), 335.

<sup>118</sup> Olafur Eliasson, “Ólafur Elíasson, Anna Engberg-Pedersen, and Philip Ursprung,” in *Studio Olafur Eliasson: An Encyclopedia*. (Köln: Taschen, 2016), 335. For images also see: ; <http://olafureliasson.net/archive/artwork/WEK100991/soil-quasi-bricks>, accessed June 3, 2018

<sup>119</sup> Eliasson, *Studio Olafur Eliasson: An Encyclopedia*, 334.

<sup>120</sup> Eliasson, *Studio Olafur Eliasson: An Encyclopedia*, 333.

<sup>121</sup> Eliasson, *Studio Olafur Eliasson: An Encyclopedia*, 333.

<sup>122</sup> While I do see the danger of the concept of “affective engineering” within atmospheres of oppression as outlined by Andreas Philippopoulos-Mihalopoulos in his article “Withdrawing from atmosphere,” I think that the kind of “affective engineering” that I plead for avoids such problems. Given the prominence of porosity in soil, and given the imagination it invokes, the affectivity I plead for eschews totalitarianism and oppression, and invokes coincidental emergences, solidarity, and innovation. Andreas Philippopoulos-Mihalopoulos, “Withdrawing from atmosphere: An ontology of air partitioning and affective engineering,” in *Environment and Planning D: Society and Space* 34, no. 1 (2015): 150-167, esp. 151-152..

responsive to the place and temporality of soil, and evocative of a new e-co-affective regime to come. To counter the “numbing” of existence and what Stiegler calls the affective proletarianization that destroys attention,<sup>123</sup> we would do well to engage the soil more responsibly yet creatively, pausing our lifestyle, and, following the root of the word “attention,” encounter a sense of being “stretched” and “waiting.”<sup>124</sup> Accordingly, we may reclaim “a sensitivity or responsiveness to both internal and external sensation” and non-metric durations,<sup>125</sup> thus allowing for long-term visions that engage a more sustainable home or *oikos* for all.<sup>126</sup>

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<sup>123</sup> Bernard Stiegler, *Automatic Society: Volume 1: The Future of Work, Volume 1*, trans. Daniel Ross (Cambridge: Polity Press 2016), 207.

<sup>124</sup> Jonathan Crary, *Suspensions of Perception: Attention, Spectacle, and Modern Culture* (Cambridge, MA: MIT Press 2001), 10.

<sup>125</sup> Crary, *24/7*, 126.

<sup>126</sup> I am thankful to the two anonymous reviewers of this journal for their comments on an earlier version of this article. I owe special gratitude to Daniel O’Connell for his inspiring and constructive feedback on this project, which allowed me to sharpen and deepen the content and argument of this paper. I also benefited from the feedback of the participants of the workshop “Exemplary Affect: Rethinking the Roots of Modern Sensibility,” organized by Johannes Türk and Hall Bjørnstad at Indiana University Bloomington (April 2018), and from the comments I received from my presentation on soil at the Annual Meeting of IAEP in Memphis in 2017. Finally, I am grateful to Darcy Allred for her editorial assistance with the final version of this article.