Journal of Agricultural and Environmental Ethics First online January 10, 2018

ISSN 1187-7863

A Phenomenological Theory of Ecological Responsibility

 And Its Implications for Moral Agency in Climate Change

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Abstract:

 In a recent article appearing in this journal, Theresa Scavenius compellingly argues that the traditional "rational-individualistic" conception of responsibility is ill-suited to accounting for the sense in which moral agents share in responsibility for both contributing to the causes and, proactively, working towards solutions for climate change. Lacking an effective moral framework through which to make sense of individual moral responsibility for climate change, many who have good intentions and the means to contribute to solutions for climate change tend to dismiss or put off addressing the root causes. With this tendency arises the practical problem that climate change calls for urgent global collective action, both in terms of mitigation (addressing the root causes, especially by reducing of GHG emissions) and adaptation, in order to prevent global temperature rise from exceeding 2C and thereby avoid worst case climate scenarios. In this paper, I develop a phenomenological theoy of ecological responsibility which addresses the conceptual problem Scavenius brings out and contributes to clarifying the sense in which individual moral agents do share responsibility for both the causes and solutions for climate change. To develop this theory, I draw from, combine, and transform insights from the late work of Husserl on open horizons, transcendental intersubjectivity, and genetic phenomenology with breakthroughs from Emmanual Levinas in articulating an original, asymmetrical theory of unlimited, diachronic responsibility. In combining insights from Husserl and Levinas, I show how what Levinas describes as the source of a demand for unlimited, diachronic responsibility (an encounter with the infinity of the other) can be phenomenologically reinterpreted in terms of a horizon of indeterminacy at the limits of clear understanding of the other. I then show how horizons of indeterminacy arise in phenomenological descriptions of both human and nonhuman entities disclosing the demand for responsibility as a broad-ranging demand for unlimited, diachronic ecological responsibility. An important implication of this phenomenological theory of ecological responsibility is that it contributes to clarifying the sense in which individual moral agents share in responsibility for long range collective moral problems such as climate change.

Keywords: Ecological responsibility, Husserl, Levinas, Diachrony, Eco-phenomenology, Climate Change

 In a recent article appearing in this journal, Theresa Scavenius compellingly argues that the traditional "rational-individualistic" conception of responsibility is ill-suited to accounting for the sense in which moral agents share in responsibility for both contributing to the causes and, proactively, working on solutions for climate change (Scavenius 2017, p. 239). Lacking an effective moral framework through which to make sense of individual responsibility for climate change, many who have otherwise good intentions and the means to contribute to solutions for climate change are dismissing or putting off addressing it. The practical problem with this tendency is that climate change calls for urgent prioritization and global collective action, both in terms of mitigation (especially through the reduction of GHG emissions) and adaptation, in order to prevent global temperature from exceeding a rise of 2C and thereby avoid worst case climate scenarios (IPPC 2007). In this paper, through a phenomenological approach, I develop an asymmetrical theory of ecological responsibility which, I contend, contributes to clarifying the sense in which moral agents share in responsibility for both the causes and contribution to solutions for climate change.

 The concept of asymmetry in ethics may be understood in various ways. In one sense, it may be viewed as a way of characterizing the moral agent/moral patient relationship, such as in the relationship of a parent to their infant, or a child to an aging parent suffering from dementia, in the human to human relationship. In such relationships, the moral responsibility of the moral agent, who is in a position of power in the relationship, entails acting for the good of the moral patient. In another sense—traceable in Aldo Leopold’s development of “The Land Ethic” (Leopold 1949)—asymmetry arises in an inverse manner through the smallness, inter-dependence, and reliance of the moral agent on the vast, surrounding biotic community, of which she is a part. In this latter sense, asymmetry characterizes the structure of the source for a sense of wonder in relation to something much bigger than our individuality, which we depend on for sustenance and of which we are a part. A third sense of asymmetry may be found in Plato’s idea of the philosophical desire for the form of the Good that resides beyond being and resists comprehension. The person of a philosophic nature, according to Plato, is a seeker of truth and, in order to know truth, the philosophical inquirer must know the form of the Good, for knowledge of the Good is necessary in order to understand all other forms (Plato 1961, 509b). The demand to know the Good is asymmetrical, however, insofar as complete knowledge of the good is impossible, so the demand to know it never dissolves. Thus, the demand to know the Good, the condition for the possibility of all other knowledge, is an asymmetrical, unlimited demand.

 In this paper, I look at asymmetry as the structure of a demand for ecological responsibility that arises in relation to the manifold of persons and things that surround us. The asymmetrical structure of the demand for ecological reponsibility shares affinity with both the Leopoldian conception of the relation of interdependence in the biotic community as well as with the Platonic conception of the philosophical demand to know the form of the Good. Combining Leopold's conception of the human place of interdependence within the biotic community with Plato's conception of the Good, we may orient our philosophical pursuit of the Good in holistic, ecological terms. In what follows, through a phenomenological approach that builds on and combines insights from Husserl and Levinas, I argue that the human condition is characterized by being subject to an asymmetrical demand for unlimited, diachronic responsibility to both human and nonhuman others which, oriented by the Leopoldian conception of the Good, is best described as a demand for unlimited, diachronic *ecological* responsibility.

 Environmental ethics was not a focus of concern for either Husserl or Levinas. Husserl’s work in developing the method of phenomenology was broad-ranging, but his main focus was the theoretical work of developing the phenomenological method showing how phenomenology could become a universal, rigorous science. While his work includes some discussion of ethics (see Donohoe 2016), ethical theory was not the primary focus of his work. Among the students of Husserl, Emmanuel Levinas stands out as having developed an original and detailed phenomenology of the ethical domain and, in particular, of a demand for unlimited responsibility to the human other.

 In *Totality and Infinity* Levinas discusses asymmetry as a way of describing the interpersonal “space” in which there is an unlimited moral demand to aid and provide for those in need around us (Levinas 1969, p. 216). Asymmetry can also be applied to Levinas’ description of the face to face relationship wherein the ego finds its unrestrained freedom called into question by what Levinas describes as the infinity of the face of the other (pp. 86-87). Having lost several family members to Nazi genocide, Levinas dedicates his second major work, *Otherwise Than Being or Beyond Essence*, to the millions who were “assassinated by the National Socialists” (Levinas 1998, dedication). The tragic historical context of genocide motivates Levinas' work which stands out not only as providing a powerful moral philosophical response to the horrific events he lived through, but also by virtue of the great strides it makes towards developing a general phenomenology of the ethical relation and an original formulation of the concept of responsibility. In the wake of the holocaust, Levinas’ focus of concern was on restoring moral respect for the human, not environmental ethics. For us, however, the historical situation is different, and in view of our understanding of climate change and its increasingly harmful effects, environmental ethics is much more of a concern. Nevertheless, it is my contention that we can draw from and transform insights from Levinas on the source of a moral demand for unlimited responsibility to the other in developing a phenomenological theory of ecological responibility.

 In the process of adapting and transforming Levinas' insights into the demand for responsibility, I will draw from insights in the late work of Husserl on open horizons of significance, transcendental intersubjectivity, and genetic phenomenology in order to develop a phenomenological description of a demand for *unlimited, diachronic ecological responsibility*. My contention is that this phenomenological theory of ecological responsibility will provide a conceptual framework through which moral agents can effectively make sense of their share in responsibility for both the causes and solutions for climate change.

 In developing a phenomenological theory of ecological responsbility, I begin with two presuppositions, the first of which I draw from Husserl and the second from Plato. First, I adopt a phenomenological approach which involves the phenomenological reduction according to which judgments on the real existence of objects of inquiry are set aside in order to focus on evaluating evidence as it appears to consciousness. Further, I adopt the phenomenological method of intentional analysis which evaluates evidence for objects as it appears in terms of degress of clarity. The phenomenological approach, as I aim to show in what follows, is unique in regard to the concerns of environmental philosophy (Bannon 2016, p. vii) in that it provides a way to describe, more that simply affirm, the manner in which a demand arises for unlimited, diachronic ecological reponsibility to both individual entities and ecosystems as a whole. Further, it points to concrete, practical implications of the meaning of ecological responsibility for individual moral agents. Second, drawing from Plato, I presuppose that all moral agents aim to understand and enact the Good or what they conceive of as the Good.

Given these two presuppositions, I proceed in the following section with a critical retrieval of two aspects of Levinas’ description of the relation to the other which I take to be positive resources for the development of a phenomenological theory of ecological responsibility. First, I point to Levinas’ account of how a demand for unlimited responsibility arises through his description of desire for the other. In this discussion, I look critically at Levinas’ description of the face of the other in terms of an idea of infinity and argue that such a description is problematic in that it invokes a neo-Cartesion dualistic ontology thereby drawing a dichotomy between the moral considerability of human and nonhuman entities. In order to overcome this moral dichotomy and adapt Levinas' insights for a description of ecological responsibility, I draw on insights from Husserl’s later work on transcendental phenomenology to argue that the otherness of the other is better described in terms of what Husserl calls an open horizon (Husserl 1970, p. 149) and what I describe in terms of horizons of indeterminacy. I then show how, through an inquiry into the phenomenological field of inquiry, a horizon of indeterminacy arises at the limits of a clear understanding of any object which interconnects the meaning of the object to other horizons of meaning in the field of inquiry. Then, returning to Levinas’ insight into the demand for unlimited responsibility that arises from the relation to the human other, I argue that the ethical demand for unlimited responsibility that Levinas brings into view in fact arises in relation to both human and nonhuman entities through the horizons of indeterminacy that surround them. While the demand for unlimited responsibility first arises in the moral agent's relation to individual entities, when oriented by the good of the biotic community, a holistic asymmetrical demand for unlimited *ecological* responsibility comes into view.

A second contribution I draw from Levinas for the development of a phenomenological theory of ecological responsibility stems from his insight into the temporal elongation of responsibility as diachronic, meaning that the demand for responsibility to the other is not momentary; rather, our responsibility to the other, in Levinas' account, arises from an "immemorial past" (Levinas 1996, p. 60) and extends indefinitely (and asymmetrically) into the future in such a way that includes responsibility to future generations. Levinas’ diachronic conception of responsibility contrasts with the synchronic mode of the traditional, rational-individualistic conception of responsibility which follows a symmetrical logic and is oriented towards the completion of limited responsibilities (or tasks) one accrues in relation to others, and I argue that Levinas’ account can be adapted and transformed through Husserl’s accounts of genetic phenomenology, the temporal mode of transcendental intersubjectivity, and horizons of indeterminacy to disclose the bearing on moral agents of collective and diachronic dimensions of responsibility. While Husserl recognized the ethical import of genetic phenomenological inquiry into the deepest layers of transcendental intersubjectivity as calling for the ethical practices of renewal and critique (Donohoe 2016), Levinas’ description of the demand for unlimited, diachronic responsibility provides a conceptual means of sharpening the ethical call to action inherent to the intersubjective constitution of subjectivity. Thus, by combining elements of Levinas’ description of the source of a demand for unlimited, diachronic responsibility with Husserl’s insights into genetic phenomenology and the intersubjective constitution of subjectivity I arrive at a more complete phenomenological description of a demand that has bearing on individual moral agents for unlimited, diachronic collective responsibility.

Finally, following the creative retrieval of Levinas’ insights into the source of a demand for unlimited, diachronic responsibility in combination with Husserl’s later work, I argue that a horizon of indeterminacy inherent to the limits of a phenomenological understanding of any entity points *both* to open horizons of significance *and* to the intersubjective constitution of subjectivity that includes nonhuman entities which together reveal that the demand for unlimited, diachronic responsibility entails responsibilities to both human and nonhuman entities. In view of the inclusive scope of the demand for unlimited, diachronic responsibility and given the universal pursuit of the good, I suggest a principle of biotic cooperation, drawn from Leopold’s land ethic, as an orienting guide for action, and this framework justifies re-naming the demand for unlimited, diachronic responsibility as a demand for *ecological* responsibility. Upon completing the description of the demand for unlimited, diachronic ecological responsibility, I indicate a few of its concrete, practical implications in relation to moral agents' responsibility for climate change.

**Levinasian Contributions to the Development of a Phenomenological Theory of Ecological Responsibility**

*Levinas’ Description of Desire for the Other as Source of a Demand for Unlimited Responsibility*

Early in *Totality and Infinity*, Levinas describes desire as a unique transcendent intention that carries the moral significance of a demand for unlimited responsibility to the other. In *TI*, Levinas maintains an ambiguous relationship with Husserlian phenomenology. On the one hand, Levinas' description of the ethical relation follows the schema of Husserlian phenomenology by describing the relation to the human other in terms of intentionality; on the other hand, Levinas claims to break from the Husserlian schema in his description of the relation to the face of the human other in terms of a “transcendent intention” which does not adhere to the objectifying structure of intentionality (Levinas 1969, p. 29). Levinas further describes desire for the other as a “metaphysical desire” (p. 33) that is intentionally directed but increases with proximity to the other and, thereby, inverts the teleological movement of intentionality that, in theoretical understanding, tends toward evidential fulfillment oriented towards attaining clarity of understanding for the object. Levinas goes on to describe metaphysical desire as,

A desire without satisfaction which, precisely, *understands* [*entend*] the remoteness, the alterity, and the exteriority of the other. For Desire this alterity, non-adequate to the idea, has a meaning (p. 34).

Unlike a need, such as thirst for water, which may not be quenched but could be, desire for the other is unique in that *in principle* it cannot be fulfilled. In the above quotation, Levinas intentionally employs a paradoxical use of the term “understands” in that the latter typically means to grasp, but remoteness and alterity suggest that which eludes the grasp. Yet Levinas affirms that desire “precisely understands” the remoteness and alterity of the other which, he emphasizes, “has a meaning.” This raises the question: what is the sense of the meaning of the alterity of the other? Levinas goes on to associate the sense of the transcendent intention of desire with an ethical meaning, and it is this latter association that I will build on, in relation to a more broad-ranging desire for the Good of the biotic community, in developing a phenomenological theory of ecological responsibility.

In the section of *TI* entitled “The Investiture of Freedom, or Critique,” in the context of a discussion of the origin of conscience, Levinas provides a phenomenological description of the manner in which a moral demand for responsibility to the other arises through *an inversion of the movement of thematization* (p. 86). In theoretical understanding, the movement of intentionality follows a pattern that proceeds from the ego-pole (what Husserl calls the noesis) to the object-pole (what Husserl calls the noema) in a process of evidential gathering by the ego for the anticipated noematic object (the image one has of the object, which may undergo modification, as evidence increases). The aim of the intentionally directed process of evidential gathering is to attain adequate fulfillment and clarity for the object. The transcendent intention of desire for the other, Levinas points out, departs from this pattern in that the movement of intentionality, rather than closing in on adequation and clarity, increases in scope with proximity to the other and eventually inverts in the sense that it carries back to the ego a novel, practical and ethical meaning--that of a demand for unlimited responsibility to the other. The ethical demand that arises through the inversion of the movement of intentionality involves a call to moral action that includes an obligation to respect and not kill the other, to reflect critically on one’s own ways of relating to the other, to avoid harming the other, and to be responsible for her (pp. 86-87 and 199).

While Levinas describes the idea of the other that arises through desire as an idea of infinity, in order to avoid problematic associations with neo-Cartesian dualism I describe it in terms of a horizon of indeterminacy that resists both evidential fulfillment and erasure; however, in developing a phenomenological theory of ecological responsibility I retain Levinas’ insight that the inversion of the movement of theoretical intentionality that takes place through the relation to alterity carries the ethical meaning of a demand for unlimited responsibility. Thus, Levinas’ phenomenological description of the structure of the moral demand for responsibility stands as an original insight that carries the phenomenological project forward in developing an original phenomenological theory of responsibility. While Husserl recognizes the presence of open horizons of meaning (which may also be described as horizons of indeterminacy), Levinas’ advance over Husserl on this point is to recognize, disclose, and highlight that through the transcendent intention directed toward open horizons (or the alterity of the other) there arises an inversion of intentionality that signals a moral demand for unlimited responsibility to the other. Husserl's insights into the open horizons of meaning that surround all objects stop short of disclosing the moral demand for responsibility, but it is at this point that Levinas' account of the ethical relation carries Husserl's insight further to disclose the ethical sense of open horizons of significance.

 In Husserl's later work, he introduces the transcendental reduction which aims to clear the field of phenomenological inquiry from pre-judgments by eliminating all traces of psychologism, e.g., a psycho-empirical understanding of consciousness which invokes a dualistic divide between what is inside and what is outside of consciousness. Husserl summarizes the aim of the transcendental reduction as shifting the focus of attention more thoroughly toward “the *how* of the world’s manners of givenness” (Husserl 1970, p. 160) in the phenomenological field of inquiry which he calls the "world-horizon" (p. 143). The transcendental reduction leads to the disclosure not only of horizons of indeterminacy or open horizons of meaning that surround all objects and intertwine with other horizons of significance but also to a recognition of hidden, ultimate sources of evidence, for both the intersubjective constitution of subjectivity and for all evidence in general, which cannot be brought into full clarity and which, therefore, may also be described in terms of *horizons of indeterminacy*. In this manner, the horizons of indeterminacy that surround all objects in the world horizon point to, in addition to the intertwinement of the meaning of the object with other horizons of significance, ultimate sources of evidence embedded in the historical, intersubjective constitution of subjectivity. In both senses, I contend, the notion of a horizon of indeterminacy effectively stands in for what Levinas describes in terms of an idea of infinity, the conceptual overflow of the face of the other.

 In *Formal and Transcendental Logic* Husserl affirms that the standard of clarity provides transcendental phenomenology with its normative orientation, and he outlines a judgment schema according to which the evidential fulfillment for objects in the forming of judgments can be placed on a scale of ascending degrees of clarity: vague, distinct, and clear (Husserl 1969, pp. 59-62). He describes vague judging as a judgment in which the evidence for the object is unclear and, hence, the intentional object is not reliably understood but rather “meant only expectantly” (p. 56). Next on the scale, distinct judging is described as judging with evidence, wherein the object of judgment, instead of merely being meant, “now is *properly* and itself *given*” (Ibid.). At the stage of distinct judging, sufficient understanding of the object has been attained for the object and the phenomenological inquirer may now begin evaluating the validity of the judgment through intersubjective discourse and critique. Finally, a clear judgment pertains to “a givenness originaliter of the affairs themselves” (p. 61), and at this stage the judgment may be considered to have achieved adequate evidential fulfillment and may be taken as correct. Importantly, however, the clarity and truth of judgments cannot be extracted from their embeddedness in the world horizon where they are surrrounded by horizons of indeterminacy that interconnect the meaning of the object with other horizons of meaning. Given that transcendental subjectivity is constituted through transcendental intersubjectivity (discussed further below), the clarity of evidence attainable by the phenomenological inquirer must be checked by intersubjective discourse and critique. Hence, in the Husserlian account of evidential gathering for any object, *it is by appealing to a standard of evidential clarity in conjunction with intersubjective discourse and critique that transcendental phenomenological claims may be justified*. From this it follows that even a clear phenomenological judgment remains open to at least two questions: 1) does clarity of evidence guarantee that the judgment is final and need not be subjected to further intersubjective evaluation? And, 2) does the correctness of the judgment exhaust the meaning of the object of judgment? The answer to both these questions, for transcendental phenomenology, is no, and this is because a *horizon of indeterminacy* persists at the limits of clear understanding as a paradoxical normative limit for understanding.

The horizon of indeterminacy is paradoxical because it is both an epistemic limit to determinate understanding, in a manner similar to knowledge of the form of the Good for Plato, and it is the source of a positive ethical demand for unlimited responsibility. In regard to the latter, following Levinas’ description of desire for the other, upon recognizing and turning our attention to horizons of indeterminacy that surround objects we find the interconnections of meaning of the object in the world horizon expand and the movement of thematization inverts, thereby calling on the attentive inquirer to responsibility, which begins with considering further possible ethically and/or ecologically relevant meanings the object may have in relation to further horizons of significance in the world horizon. As we saw above in Levinas’ description of the relation to the other through desire, in relating to horizons of indeterminacy the movement of intentionality becomes a double movement aiming, in one direction, at gathering evidence for theoretical understanding while in the other direction there is a counter-movement that carries an ethical demand for self-critique and unlimited responsibility to the other. In this manner, through a phenomenological description of horizons of indeterminacy that combines Husserl’s insights into open horizons at the limits of a clear understanding with Levinas’ description of desire and his insight into the source of a demand for unlimited responsibility, we arrive at a phenomenological description of a demand for unlimited responsibility to both human and nonhuman entities in the world horizon, and this takes us an important step forward in the development of a phenomenological theory of unlimited, diachronic ecological responsibility.

*Levinas’ on Diachrony as the Temporal Mode of Unlimited Responsibility*

A second significant contribution Levinas makes to the development of a phenomenological theory of ecological responsibility stems from his description of the temporal mode of the demand for unlimited responsibility in terms of diachrony. We may note here that establishing diachrony as the temporal mode of ecological responsibility is especially important in relation to the cross-generational problem of climate change, the causes of which trace back to the beginnings of the Industrial Revolution and the harmful effects of which may extend indefinitely into the future, to a greater or lesser extent, depending on how effective the global, collective response is to the problem. The importance of Levinas’ diachronic formulation of responsibility becomes evident when viewed in contrast to the traditional, rational-individualistic conception of responsibility which, as Scavenius notes, falters in conveying the sense in which individual moral agents share responsibility for climate change. The synchronic character of the traditional, rational-individualistic conception of responsibility can be made clear by briefly recounting Nietzsche’s critique of the standard modern concept of responsibility in *The Genealogy of Morals.*

In Nietzsche’s account, the modern, traditional concept of responsibility is revealed to have a symmetrical, reciprocity-based structure that stems from its basis in an ideal of equivalency which arose in conjunction with the socio-economic development of the creditor/debtor relationship. Leading up to his explanation of the development of the traditional concept of responsibility, Nietzsche explains how the related moral concept of “guilt” (*schuld*) can be traced back to the material, legal term “debt” (*schulden*) which originally took on significance in the economic context of the creditor/debtor relationship. The latter, Nietzsche argues, was guided by a quantitative ideal of symmetric equivalency: the idea that every debt could be paid back by some equivalent currency or punishment (whereby the punishment is intended to "fit" the crime/debt). In this way, Nietzsche argues, the creditor/debtor relationship arose in conjunction with an ideal of equivalency and served as the basis for the development of the modern concept of responsibility (Nietzsche 1992, p. 499). In regard to the temporal sense of the modern concept of responsibility, the ideals of equivalency and reciprocity, integral to the modern concept of responsibility, align with a synchronic understanding of responsibility in the sense that one is considered responsible for something from the time a debt is incurred (or a commitment is made) up to the time the debt is repaid (or the commitment fulfilled), at which point one is absolved from that responsibility.

By contrast, by way of a phenomenological method of inquiry, Levinas discloses a new sense of responsibility as diachronic and asymmetrical in the temporal sense of arising from an immemorial past and extending indefinitely into the future. In *Otherwise than Being or Beyond Essence* Levinas brings into relief the asymmetrical, diachronic sense of responsibility through a phenomenological description of the linguistic distinction between the *saying* and *the said*. The approach to the other in saying, as Levinas describes it, raises a diachronic demand for responsibility through the temporally enigmatic proximity of the other. Levinas writes,

Saying is not a game . . . a foreword preceding languages, it is the proximity of one to the other, the commitment of an approach, the one for the other. . . The original or pre-original saying, what is put forth in the foreword, weaves an intrigue of responsibility (Levinas 1998, pp. 5-6).

In the approach to the other through saying, as Levinas describes it, one encounters a demand for responsibility to the addressee that arises prior to any quantifiable debt or formal agreement as would happen in a creditor/debtor relationship; rather, the demand for responsibility to the other arises, paradoxically, from a time prior to the act of saying (“pre-original”), a time that cannot be pinned down to any particular moment. Pointing to the temporal enigma associated with the source of the demand for responsibility, Levinas writes,

The unlimited responsibility in which I find myself comes from the hither side of my freedom, from a “prior to every memory,” an “ulterior to every accomplishment,” from the non-present par excellence, the non-original, the an-archical (p.10).

In this manner, through a description of saying, Levinas discloses a demand for unlimited responsibility to the other that is diachronic insofar as the demand arises from an “immemorial past” (Levinas 1996, p. 60) and bears significance that extends indefinitely into the future. The suggestion is that since the demand for responsibility arises prior to any incurred debt or contract, the demands of responsibility are diachronic in the sense that they cannot be traced back to a moment where they began and they never expire. It may even be said that the demands of responsibility extend beyond both my death and the death of the other.

While Levinas’ description of diachronic responsibility to the other as arising in saying is provocative and compelling, the enigmatic idea of an “immemorial” source for the demand for responsibility calls for further phenomenological clarification. To this point, I draw from Husserl's development of genetic phenomenology and his description of the intersubjective constitution of subjectivity to show how the demand for diachronic responsibility is best understood as a demand for collective, cross-generational responsibility. In *Formal and Transcendental Logic* Husserl draws a link between the indeterminate horizons surrounding objects and the ultimate sources of evidence that can be traced to transcendental sources by way of what he calls the genetic phenomenological mode of inquiry. Making reference to the genetic method of inquiry, Husserl writes,

. . . *the intrinsically first thing in the theory of evident judgments* (and therefore in judgment-theory as a whole) *is the genetical tracing of predicative evidences back to non-predicative evidence* called *experience* (Husserl 1969, p. 209).

In the above quotation, Husserl refers to the genetic mode of phenomenological inquiry which he develops and adds on to the original, static method in both published and unpublished works after 1919 (Donohoe 2016, p. 20). Genetic phenomenology involves a regressive mode of questioning back into the transcendental, historical, and intersubjective constitutive sources of subjectivity and of the meaning of objects in general. Following the transcendental reduction, the older static phenomenological method of intentional analysis continues to have an important role, but it is now deepened and complemented by a new genetic phenomenological method which broadens the scope of inquiry to include the historical and transcendental significance of temporally sedimented layers of meaning that have built up through what Husserl calls passive syntheses and that contribute to the temporal constitution of the meaning of both objects and of the identity of the ego. The content of the transcendental field of inquiry which genetic phenomenology inquires into includes the temporally extended intersubjective constitution of subjectivity which forms an integral part of the hidden, non-predicative evidence for ultimate sources of meaning. Through Husserl’s development of genetic phenomenology and the link he draws between non-predicative evidence and the intersubjective constitution of subjectivity, he opens phenomenological descriptions of the temporally extended, intersubjective and collective sense of subjectivity. He thereby provides phenomenological tools to clarify Levinas’ disclosure of the enigmatic immemorial source of the demand for diachronic responsibility as arising in relation to the temporally extended intersubjective constitution of subjectivity, and this clarifies the collective (rather than individualistic) and diachronic sense of the demand for responsibility. Hence, by situating Levinas’ description of a diachronic demand for responsibility within the Husserlian framework of genetic phenomenology, we arrive at a clarification of the source of the diachronic demand for responsibility as arising from the “immemorial” intersubjective constitution of subjectivity. From this it follows that the demand for unlimited, diachronic responsibility arises not as an exclusive responsibility one individual has for another but rather as an inclusive and collective responsibility all moral agents have to the broad, intersubjective, cross-generational (and, ultimately, global and biotic) community that constitutes subjectivity. Connecting transcendental intersubjectivity with Husserl’s account of the deepest level of temporality, Donohoe writes,

The intersubjectivity that is present at this deepest level of time is a constituting intersubjectivity and not a constituted intersubjectivity. It is an intersubjectivity that is felt at the level of passive association for the ego…This is an account of intersubjectivity that undermines the more traditional accounts of Husserlian intersubjectivity that begin with an absolute subject that constitutes an other. Rather, this undermines that notion of an absolute subject and replaces it, because of the structure of the streaming living present, with a copresent, simultaneous, absolute intersubjectivity (Donohoe 1996, p. 64).

Through Husserl’s development of genetic phenomenology in conjunction with his recognition of the temporally extended transcendental intersubjective constitution of subjectivity, it becomes possible to understand Levinas’ disclosure of a demand for unlimited, diachronic responsibility as a collective, cross-generational responsibility all moral agents have for the good of the biotic community as a whole that arises from the “immemorial,” transcendental intersubjective constitution of subjectivity. Phenomenologically, it is the horizons of indeterminacy surrounding objects that point to interconnections of meaning with other horizons of significanc as well as to the diachronic intersubjective constitution of subjectivity, thereby inverting the intentional movement of thematization and signaling a demand for unlimited, diachronic responsibility to the cross-generational, biotic community of others.

**The Problem of Moral Exclusion and the Need for a Supplement to Levinas’ Phenomenology of the Ethical Relation**

 Before considering the practical implications of unlimited, diachronic ecological responsibility in relation to the urgent contemporary problem of climate change, I want to make two further points on why there is a need for a supplement to Levinas’ phenomenological account of unlimited, diachronic responsibility. The first is the historical point that a supplement to Levinas' account is needed because environmental ethics is a much greater concern for us now that it was during his time. While Levinas stands out as providing a powerful philosophical response to the horrors of genocide, as noted above, environmental ethics has much greater importance for our time largely due to our much more in depth understanding of the driving, anthropogenic causes and increasingly harmful effects of climate change on both human and nonhuman entities.

 The second reason there is a need for a supplement to Levinas' account is philosophical and concerns the entanglement of his theory with neo-Cartesian dualism which leads him to draw a sharp dichotomy between the moral significance of human and nonhuman entities. Of the encounter with the human other Levinas writes,

The face of the Other at each moment destroys and overflows the plastic image it leaves me, the idea existing to my own measure and to the measure of its ideatum—the adequate idea . . . To approach the Other in conversation is to welcome his expression, in which at each instant he overflows the idea a thought would carry away from it. It is therefore to *receive* from the Other beyond the capacity of the I, which means exactly: to have the idea of infinity (Levinas 1969, pp. 50-51).

The face of the other, in Levinas’ account, is unique among phenomena in that it alone overflows any concept we would form of it, and it alone raises the demand for unlimited, diachronic responsibility. Shortly before the above passage, Levinas draws an explicit link to Descartes, in relation to the strong distinction he makes between the face of the human other and everything else, which exposes a neo-Cartesian, dualistic ontology as operative in his ethical theory. He writes,

To be sure, things, mathematical and moral notions are also, according to Descartes, presented to us through their ideas, and are distinct from them. But the idea of infinity is exceptional in that its *ideatum* surpasses its idea, whereas for things the total coincidence of their “objective” and “formal” realities is not precluded; we could conceivably have accounted for all the ideas, other than that of Infinity, by ourselves (Levinas 1969, pp. 48-49).

In this passage Levinas embraces the view that we grasp the meaning of nonhuman objects primarily through a “total coincidence” between objective evidence and the formal reality of an object, and this Cartesian view carries with it an implicit moral exclusion according to which human beings, owing to the attribution of infinity to the human face, are considered absolutely morally significant, while other entities undergo moral exclusion, due to their lack of infinity. The problem of moral exclusion belies tendencies in Levinas towards ontological dualism and anthropocentism. Drawing on Husserl, we have shown how horizons of indeterminacy that surround all objects point to an asymmetric demand for unlimited, diachronic ecological responsibility that includes responsibities to nonhuman entities as well as to the biotic community as a whole.

 How does the phenomenological theory of ecological responsibility presented here compare with other environmental ethical theories? Is it individualistic or holistic, anthropocentric or nonanthropocentric, deontological, teleological (virtue-based), or utilitarian? While this is not an easy question to answer, a few distinctions may be drawn. First, in contrast to Rolston and others who depend on controversial notions of intrinsic and systemic value as the sources of duties to nonhuman entities (Rolson 1991), the phenomenological approach developed here provides of way of showing the manner in which a demand for ecological reponsibility arises from horizons of indeterminacy surrounding all objects of understanding. Second, as indicated at the beginning of the paper, this theory of ecological responsibility affirms the good of the biotic community as a guiding principle and, in that sense, it is holistic and ecocentric. However, while this theory may be distinguished from Tom Regan's individualistic, deontological animal rights view by virtue of its holism, there is a sense in which the phenomenological theory of ecological responsibility is individualistic insofar as the source of the demand for ecological resonsibility at first arises from a recognition of horizons of indeterminacy that surround individual organisms and objects in the world horizon. However, the horizons of indeterminacy surrounding objects ultimately point to the interconnectedness of the object with other horizons of significance and with the biotic community as a whole; hence, the theory presented here is both holistic and individualistic. In resonance with Leopold, in relation to the biotic community, the phenomenological theory of ecological responsibility presented here entails both respect for "fellow members, and also respect for the community as such" (Leopold 1949, p. 204). The holistic sense of ecological responsibility stems not only from the the interconnectedness of the meaning objects but also from the diachronic, intersubjective constitution of subjectivity. Where conflicts arise between respect for individual members of the biotic community and the community as a whole, such as where an invasive species threatens the good of an ecosystem, respect for community as a whole would take precedence, but the course of action for preserving the whole remains constrained by demands of responsibility to individuals. While ecological responsibility may be considered a virtue and perhaps fits best with a virtue-based theory of ethics, it resonates with elements of deontology (insofar as there is a demand for responsibility) and utility (insofar as it aims for the good of the biotic community as a whole). But the phenomenological theory of ecological responsibility may be distinguished most sharply from traditional ethical theories in placing emphasis on the nonanthropocentric, temporally extended, and collective character of responsibility.

 While, as Toadvine has pointed out (Toadvine 2012, pp. 178-179), the moral dichotomy Levinas draws between the value of human others and that of nonhuman entities problematizes a simple transfer of Levinas’ ethical theory to a strong ethics of nature, Levinas nevertheless contributes important fundamental insights to the development of a phenomenological theory of ecological responsibility. In particular, setting aside his neo-Cartesian dualistic assumptions, Levinas' description of the source of a demand for unlimited, diachronic responsibility provides the basis for the development of an inclusive phenomenological theory of unlimited, diachronic ecological responsibility.

**Practical Implications of the Phenomenological Theory of Ecological Responsibility for Moral Agents in Relation to Climate Change**

Having set out a phenomenological description of a demand for unlimited, diachronic ecological responsibility as arising from horizons of indeterminacy surrounding objects, I now turn to look briefly at the practical implications of ecological responsibility in relation to the current environmental crisis characterized most starkly by climate change. As Theresa Scavenius has shown, attributing responsibility for climate change to individual moral agents has proven to be problematic when starting from the prevailing rational-individualistic conception of moral responsibility, and a different framework for moral reponsibility is needed (Scavenius 2017, pp. 225 and 239). My contention is that the phenomenological theory of unlimited, diachronic ecological responsibility developed here provides an effective response to this problem by disclosing the asymmetrical structure of the demand for ecological responsibility and the collective, diachronic sense in which moral agents share in responsibility for climate change, in particular by virtue of the temporally extended, intersubjective constitution of subjectivity.

 Scavenius argues that under the prevailing rational-individualistic conception of responsibility, environmental responsibility takes on meaning under three conditions: 1) what accords with socially accepted ideas of right action, 2) a capacity to understand and calculate the environmental costs and benefits of any particular action, and 3) control over available behavior options (p. 226). She goes on to argue that in relation to all three conditions for holding individuals responsible for their actions, none of the three criteria are met in relation to the problem of climate change, since it is socially acceptable to continue using fossil fuels by driving and other behaviors (1), it is not possible to know the exact costs and benefits of one’s actions in relation to climate change (2), and individuals do not have a sufficient degree of control over the institutions that shape available behavior options that could alter climate outcomes (3). She concludes that, therefore, the rational-individualistic framework for responsible action is unsuited to conceptualizing individuals’ moral responsibility for climate change, and she rightly suggests that this points not to a lack of actual individual responsibility for climate change but rather to a need for a better way of conceptualizing our responsibility for it (p. 239). My contention is that the phenomenological theory of unlimited, diachronic ecological responsibility presented here provides a uniquely effective response to the conceptual problem Scavenius poses. That is, in view of the phenomenological disclosure of a demand for unlimited, diachronic ecological responsibility, each moral agent can makes sense of the manner in which she, as a diachronically and intersubjectively constituted individual, shares in responsibility both for the historical, anthropogenic causes of climate change and, looking to the future (most importantly), for proactively contributing to collective projects and initiatives that are required for the global mitigation and adaptation to climate change for the sake of future generations.

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