

A Species-Based Environmental Ethic in Hegel's Logic of Life

Wendell Kisner
Athabasca University

Abstract: In this paper I will argue that Hegel's account of the category of life in the *Science of Logic* provides ontological grounds for the recognition of living species along with their various ecosystems as the proper objects of ethical regard for environmental ethics. I will begin by enumerating some of the salient problems that have arisen in the more well known theoretical attempts to articulate human duties to nonhuman beings. Then after a brief discussion of Hegel's methodology and the justification for turning to his ontological account, I will explicate Hegel's ontology of life with a view toward these problems and issues, presenting my argument as to why that account is relevant to environmental ethics and deriving from it a normative framework that implies a duty to preserve species, habitats, and biological diversity. Finally, I will suggest how the Hegelian account presented here might circumvent the shortcomings of the previously discussed theories while accommodating some of their concerns and provide solutions for some of the problems to which they call attention.

1. Introduction: Recent Problems That Have Arisen in Environmental Ethics

There has been considerable debate in the field of environmental ethics over the idea of “intrinsic” or “inherent” value *vis-à-vis* mere instrumental value. The distinction in its modern form is more or less a Kantian one, viz. that between irreplaceable beings characterized by something like “dignity” as opposed to replaceable ones that can be characterized by a price. Kant referred to the former as persons and the latter as things, but the status of the nonhuman living being in this schema remains ambiguous. Do nonhuman living beings count as mere things with a purely instrumental value or

do they have something intrinsic about them that would constitute a *prima facie* demand that they not be treated as a mere means to something else? A similar distinction is invoked with respect to the “environment” in general—are ecosystems inherently valuable in themselves or do they count as mere means and so have no more value than any other tool?

Very little work has been done to date on Hegel’s possible contribution to eco-philosophy and environmentalism. His philosophy has for the most part been relegated to an environmental dustbin. In part this may be due to some of Hegel’s own unpromising remarks about nature *vis-à-vis* spirit and the implied “anthropocentrism” therein,¹ and in part to the extraordinary difficulty of deciphering the Hegelian corpus. With respect to the former I will show that there are resources in Hegel’s text that speak against some of his own apparently dismissive statements as well as against the interpretation of Hegel as a champion of the unqualified industrial exploitation of nature. With respect to the latter we must note that, always with a view turned not just toward the problems of philosophy but also toward activism, eco-philosophy is and must be drawn toward a level of general intelligibility that cannot remain closed up in specialized jargon. This makes the translation of Hegel into a more widely accessible language a real challenge that one does not face to the same degree with other more immediately accessible writers. And although recent years have seen an increasing interest in Hegel’s philosophy of nature, the debates generally concern its relation to the empirical sciences on the one hand and to its Kantian prequel on the other.²

But in spite of its extraordinary difficulty, I do think that Hegel’s text can be made intelligible to both non-Hegelians and nonspecialists. Certainly there is no avoiding the difficulty required by the sustained level of thinking maintained by Hegel’s *Logic*, but with patience and a willingness to grapple with difficult concepts, it is my contention that the effort is worthwhile and will result in a meaningful and important contribution to some of the current debates within environmental ethics.

The ecosystem ethic corresponding to an ontological conceptualization of life that is indicated when the account of life in the *Logic* is taken together with the account of freedom in the *Philosophy of Right* can avoid some of the problematic features of several previous attempts to ground a normative framework with respect to nonhuman existents while accommodating the concerns of at least some of them. The ethic I am suggesting here, for instance, is not based upon an extension of human rights to nonhuman living beings,

nor does it require first adopting a certain kind of attitude or belief system. It is not based upon attempts to find an ethical imperative in aesthetics by appealing to concepts like “unity” or “integrity” and thereby assuming a normative dimension not explicitly shown to be necessary, nor does it assume that the “whole” is somehow morally better than the parts or that holism is *a priori* better than atomism. I will argue that Hegel's philosophy can accommodate many of these concerns by providing an independently derived ontological account and thereby not relying upon any one of them for normative justification. The following in no way pretends to be exhaustive but only aims to briefly indicate what I take to be problematic features of some of the more well-known theories in order to indicate some common problems to which a Hegelian approach might provide solutions. These theories will be revisited and the latter solutions specified after the exegesis and development of the Hegelian position.

2. Animal Rights

Perhaps the most well-known theory of animal rights is the utilitarian argument put forward by Peter Singer.³ Singer calls for a radical extension of equal moral consideration to nonhuman living beings, characterizing the exclusion of such beings from full equality of consideration as “speciesism” along the lines of and formally identical to the exclusions effected by racism and sexism. Singer's general strategy can be schematized as follows: we already commonly accept that we are morally obligated to group *x* because of reason *y*. But we commonly do not accept moral obligation to *z*, and yet *y* applies to *z* just as much as to *x*. Therefore in order to be consistent we must also assume equal obligations to *z*. The right to equal consideration of interests is in turn based on the capacity for suffering or “sentience.”⁴ Hence the exclusion of animals from equal moral consideration amounts to an arbitrarily privilege accorded to the human species over others and thereby rests upon a “speciesism” analogous to racism and sexism.

J. Baird Callicott has pointed out that to regard sentience as the fundamental normative criterion necessarily presupposes the hedonist assumption that pain (suffering) itself is evil and pleasure or absence of pain is the good, an assumption that John Stuart Mill openly acknowledged in his defense of utilitarian moral theory, and therefore it will be convincing only to the degree that one accepts this assumption.⁵ But Singer's claims are further weakened by the fact that they are external to life when life as such is consid-

ered in itself. In other words, the demand for equal moral consideration is not seen as springing from the nature of the living being itself. Rather, such consideration is extended to the living being by a reflection that is external to it.⁶ Indeed, according to Singer's argument regarding "speciesism" it actually seems as if I should extend equal consideration to animals in order to avoid inconsistency more than out of a positive moral regard for the animals themselves. To be sure, the mere capacity to suffer itself is not dependent upon external considerations, but the elevation of that capacity to the status of a moral criterion and the further demand for consistency in moral evaluations are. Attention to the living beings themselves begins and ends with the observation that they can suffer. But even leaving this aside, the hedonist assumption requires justification. The Hegelian position I am arguing for here would avoid requiring such an assumption which, following Callicott, I take to be highly problematic.⁷

Tom Regan has attempted to develop a "deontological" account of animal rights, thereby hoping to overcome the problems of locating moral value in the valuing subject rather than in the object of moral concern.⁸ Admirable as his ambitious attempt to justify a deontological ethic may be, however, his account seems to ultimately fall into the most insidious subjectivism precisely because, as Mary Anne Warren has pointed out,⁹ his imputation of "inherent value" to animals must ultimately be taken on faith. Thus without hedonism, Regan's deontological account in the end lacks belief-independent rational grounds.

We now turn to less atomistic or holistic arguments for making normative claims regarding the nonhuman.

3. Belief Systems, Respect for Nature, and Deep Ecology

Paul Taylor proposes an environmental ethic that avoids the extension of rights to animals and calls for an "attitude" of respect for nature. This attitude imputes inherent worth to living beings insofar as the latter each pursue a good of their own.¹⁰ He explicitly rejects any logical or empirical connection between the idea that a living being has a good of its own and the concept of inherent worth. The basis for this attitude is ultimately a "belief system" which Taylor admits cannot be proven but merely shown to be consistent with science and with a vaguely defined notion of "rational acceptability." But insofar as merely demonstrating a belief to be consistent with something else one already accepts does not demonstrate its necessity, its acceptance or

rejection remains arbitrary. Even if it is *believed* that life itself has an inherent worth that requires some sort of moral regard or respect, this inherent worth is neither demonstrated nor derived *because the ontological structure of life is not articulated in the first place*.

Proponents of "Deep Ecology" do not hesitate to impute intrinsic value to the natural environment as well as "biocentric equality," and they have been the most vocal and public critics of "anthropocentrism" (i.e. the assumption that human beings are central with respect to ethics as well to a view of nature instrumentally understood).¹¹ But much like Taylor's position, Deep Ecology also often tends to rest on avowal and an appeal to the vagaries of intuition, and so fails to convince many who are uncomfortable with grounding ethics and philosophical positions in general on such an avowed vision. Perhaps more importantly with respect to ethics, as Ramachandra Guha has argued, Deep Ecology may also entail glossing over and concealing human inequalities and even perhaps some of the more serious root causes of environmental degradation.¹²

4. *Ecofeminism*

The ecofeminist position of Val Plumwood claims that rationality itself is inherently dualistic and inimical to nature and so must be supplemented by an alternative account. The alternative account she seeks would be one that overcomes the atomism she attributes to masculinist rationality and at the same time recognizes interdependence without, however, merely blurring everything together.¹³ Insofar as this kind of position seeks to preserve difference and unity at the same time, one might argue that it does greater justice to the phenomena in question than the holistic accounts that blur distinctions rather than show their interconnectedness within an articulate whole. In this respect, as we will see, it is consonant with the Hegelian position. Karen Warren's ecofeminism, on the other hand, asserts that any legitimate environmental ethic must be conceived under the rubric of "the twin oppressions of women and nature."¹⁴ The attempt to irrevocably tie environmental ethics *per se* to a critique of the human history of oppression, however, begins with an *a priori* rejection of any philosophical project that might attempt to determine what the ontological structures of nature or life might be in themselves irrespective of such history. For Hegel, as we will also see, it is hardly a foregone conclusion that any such project is impossible due to historicist contextualization.

5. *Leopoldian Holism and the Land Ethic*

Holistic theories in general impute value to wholes rather than to individuals, making them understandably attractive to anyone wishing to assert ethical duties toward species and/or ecosystems. One of the more well-known holistic theories of environmental ethics is the “land ethic” first proposed by Aldo Leopold, who sums up its moral injunction in this way: “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”¹⁵ Of course the problem immediately apparent in a pronouncement like this is that of justifying the normative use of concepts like “integrity, stability, and beauty.”¹⁶

Perhaps the most well-known contemporary proponent of the Leopoldian land ethic is J. Baird Callicott, who has gone to great lengths to defend his own version of it. He sums it up as follows: “Its conceptual elements are a Copernican cosmology, a Darwinian protosociobiological natural history of ethics, Darwinian ties of kinship among all forms of life on earth, and an Eltonian model of the structure of biocenoses all overlaid on a Humean-Smithian moral psychology.”¹⁷ Referring to a “superorganism model of the environment as a paradigm pregnant with moral implications,” Callicott approvingly cites Leopold who, in reference to the holistic vision of the environment as containing “all the visible attributes of a living thing,” writes, “Philosophy, then, suggests one reason why we cannot destroy the earth with moral impunity; namely, that the ‘dead’ earth is an organism possessing a certain kind and degree of life, which we intuitively respect as such.”¹⁸ But without an adequate ontology of life “as such,” the vision of the earth (or, more cautiously, of an ecosystem) as a living organism in its own right would not in itself necessarily imply any normative claims regarding it. So also, referring to the slow trend of biological evolution toward greater diversification of the biota, Callicott asserts, “What is wrong with anthropogenic species extirpation and extinction is the *rate* at which it is occurring and the *result*: biological impoverishment instead of enrichment.”¹⁹ But again, without an ontological account we are left wondering why the mere speed of change and the reduction of biological diversity in themselves would violate any moral imperatives.²⁰

Callicott furthermore maintains the view that all value is projected by a valuing subject onto nature.²¹ Indeed, he openly admits that his theory of value “respects the institutionalized cleavage between object and subject.”²² Thus insofar as all value is based in the subjective consciousness—even if

what is so valued need not itself be another subjective consciousness—such ethical theory remains grounded in the subject and is therefore to that degree ultimately “anthropocentric” as well as Cartesian. Such moral sentiment does not spring from the nature of the matter itself, but is a projection based in us—even if such a projection is based upon an appreciation of “Darwinian ties of kinship among all forms of life on earth.” Since its ontological basis would therefore be a metaphysics of subjectivity, to that degree the land ethic as Callicott conceives it would not be quite as conceptually new or as different from existing theories as he might wish it to be. Rather, in its opposition to utilitarian and deontological theories “the lines of battle” would again be “drawn along familiar watersheds of the conceptual terrain.”²³ Furthermore, such an “institutionalized cleavage between object and subject” sets his position up for precisely the kind of critique against dualistic rationality mounted by Plumwood.

In addition to the forgoing considerations, a potentially serious moral problem associated with holistically conceived theories of environmental ethics is the risk of swallowing up individual human rights in a collectivist vision. An example of such a theory is Callicott's own early attempt to defend a version of Aldo Leopold's land ethic.²⁴ Indeed, the specter of totalitarianism that casts a shadow over this and other holistically oriented theories has led critics such as Tom Regan to, perhaps a bit hastily, characterize them as forms of “environmental fascism.”²⁵ Callicott has since seriously modified his theory so as to supplement rather than replace existing Enlightenment doctrines of human rights.²⁶ As he puts it, the land ethic “neither replaces nor overrides previous accretions. Prior moral sensibilities and obligations attendant upon and correlative to prior strata of social involvement remain operative and preemptive.”²⁷ But then the precise relation between the land ethic and these “prior accretions” becomes unclear. Why should one take precedence over the other? Thus even though Callicott claims that misanthropy does not necessarily follow from the land ethic as he conceives it, he does regard the latter as an “accretion” that is overlaid upon ethical duties established earlier (*viz.* individual human rights, etc.), and so the relation between environmental ethics and the ethical duties that govern the inter-human sphere is a mutually external one, leaving any prioritizing problematic if not arbitrary.

6. *Faking Nature and the Nature/Artifice Dualism*

Receiving its first explicit defense in Robert Elliot's essay "Faking Nature,"²⁸ but relying heavily upon the classic metaphysical dualism between the "human" and the "natural" spheres, another claim that has received some attention in environmental ethics is the notion that, once tarnished by human intervention, "nature" can never really be restored but will henceforth always be marked by that intervention. This thesis essentially drives a wedge between the "human" and the "natural" that renders the restoration of "nature" impossible. Elliott argued that such restoration amounts to "faking nature" in a way that is analogous to producing false replicas of artworks—the reproductions can never truly replace the originals. This hard nature/artifice dualism is further maintained and defended in Eric Katz's "The Big Lie: Human Restoration of Nature,"²⁹ in which Katz asserts that "the imposition of human plans—human ideals, goals, and designs—converts natural processes into human artifacts. The natural environment cannot be redesigned or restored and remain natural."³⁰

It was Bill McKibben's influential book *The End of Nature* that drew the final consequences of such a view.³¹ McKibben argued that "nature" has already been divested of any purely "natural" character due to human intervention, leaving us with *only* an artificial environment. Of course merely denying one of the poles of a dualism hardly overcomes the dualism; it rather reestablishes it at another level. McKibben's view still depends upon a concept of "nature" as a pure sphere independent of human activity—as if things were once truly "natural" but now they are not, thereby protecting one of the poles of the dualism in nostalgia for a lost origin.

The self-defeating character of this sort of dualism in both Katz and McKibben with respect to environmental activism has been well articulated by Steven Vogel.³² Once environmental intervention in nature has occurred—and it *has* in fact occurred—we are left with a kind of environmental fatalism. Neither mourning the loss of nature nor attempting to recover it from this loss, Vogel embraces it: "The 'end of nature,' it turns out, may be something that has always already occurred."³³

This embrace for him in turn allows us to fully recognize human involvement in nature and thereby to take action towards its preservation rather than destruction. Part and parcel of this embrace for Vogel means giving up on the project of articulating a philosophical concept of what nature or life are *in themselves*. The idea of a "nature" (or anything else, for that matter)

“in itself” is abandoned as a vestige of Kantian noumena that, since one has no access to it anyway, is simply irrelevant at best and at worst a point of irresolvable contention. Because Vogel has essentially abandoned any attempt to articulate an ontology of nature, he is left with a kind of “ethic of self-awareness” insofar as he attempts to locate a normative criterion in human practices “in the degree of self-consciousness they evince.”³⁴ The more self-conscious a practice is, the more ethical it is.

At this point however Vogel must rely upon the mere avowal that acknowledging the social character of one's practices and thereby “knowing oneself” is better than remaining unaware of it. But without importing a moral philosophy from elsewhere, it is difficult to see why one should prefer such self-consciousness over the bliss of ignorance or—which could just as easily be done while fulfilling the criterion of self-consciousness—why one should not openly acknowledge the social character of one's practices while wantonly destroying ecosystems and their resident living beings.

Additionally, the recognition that “nature” is not and never has been some kind of pure sphere independent of the interventions of the organisms in it, including human activity, might be seen to lead to an undesirable relativism in which a polluted earth is just as acceptable as a nonpolluted one, or one in which ecosystems housing nonhuman life have merely instrumental value and so can be destroyed without qualm so long as human survival is not thereby endangered. As Vogel puts it: if “*all* landscapes are already ‘artificial’ (humanized) ones, then there seems to be no way to distinguish in a principled manner between the blighted landscapes of modern technology and the sorts that environmentalists typically want to preserve and indeed to protect against further technologization.”³⁵ If there is no “nature” that is independent of human activity, then perhaps there is no significant ethical or ontological difference between a forest and a shopping mall.

On the other hand, the charge of “idealism” is laid at the feet of social constructivists “because the claim that we somehow ‘construct’ our own environment seems simply to ignore the fact that nature is absolutely real and not a possible object of our construction at all.”³⁶ This is of course the point that Alan Sokal has repeatedly emphasized: “anyone who believes that the laws of physics are mere social conventions is invited to try transgressing those conventions from the windows of my apartment. (I live on the twenty-first floor.)”³⁷ In addition to being metaphysically problematic, such “idealism” might well lead to the very exploitation and destruction of the

natural ecosystems that caused environmental problems in the first place. After all, if nature is just a social construct, this fact might well make us morally indifferent to what we do to it.

In the end all Vogel can appeal to are “the political and material” implications of our practices, and so “to engage in them is implicitly to raise a set of normative questions about both their political justification and their material impact.”³⁸ But such an appeal to a set of normative questions that are somehow “raised” would seem to devolve back to whatever commonly accepted ethical norms govern any given society already (e.g. if we engage in practice *x* it might harm members of the group *y*) but there is no *prima facie* reason to expect that these norms would lead to obligations regarding living organisms or ecosystems in their own right—at least not without importing some other ethical theory into it. It is hard to imagine that Vogel’s strategy would end up with anything other than good old conservation of natural resources for the sake of human consumption which, while no doubt better than willfully squandering these resources for short-term economic gains, is hardly new and may well reduce to a merely instrumental value of nature in the context of human-centered utilitarian calculations. Such a view of course still leaves vulnerable those species and ecosystems whose extinction or destruction may not have any foreseeable effect on human welfare.

7. Common Problems

Let me now sum up some of the problematic features found in these various theories. They boil down to two major problems in their accounts of life or of nature: 1) they are not grounded in the ontological character of the matter itself but rather stem from concerns external to the latter, and 2) they are based on problematic presuppositions which, insofar as they are not ontologically grounded in the matter under consideration, must either be uncritically assumed or imported from elsewhere.

With respect to animal rights, Singer’s call for equal moral consideration is not seen as springing from the nature of living beings themselves but is extended to them by concerns external to them. Singer’s position additionally requires that we assume hedonism, whereas Regan’s imputation of “inherent value” to animals in the end rests on mere avowal. Taylor’s recommended attitude of respect for nature fails to address the ontological structure of life and likewise requires a belief that life itself has an inherent worth requiring moral respect. Deep Ecology makes life central, but fails to justify its impu-

tation of intrinsic value and “biocentric equality” to natural environments. Plumwood’s ecofeminism challenges a dualistic opposition between nature and reason with an externally introduced supplementary perspective, whereas Warren’s position is driven by concerns about the specifically human sphere and its various forms of oppression rather than about the ontological character of life or nature in themselves. Since Callicott holds the view that normative value is projected by a valuing subject onto nature, any normativity in his “land ethic” arises from external concerns as well, and the justification for Leopold’s normative use of concepts like “integrity, stability, and beauty” remains unsatisfactory. Vogel rightly rejects the nature/artifice dualism, but he does so by renouncing any attempt to provide an ontological account of life. Hence the normative questions he wants to raise about the political justification and material impact of human practices on environments do not stem from a consideration of what life is in and for itself. For Vogel this is not a problem; however, it is not clear how or if this approach would avoid merely presupposing commonly accepted ethical norms without some further justification, and it may leave certain species and/or ecosystems vulnerable to extinction or destruction.

I will argue that an ontological clarification of the category of “life” gained through Hegel’s *Logic* can provide support for an ecosystem ethic that both rejects the subjectivization of value and avoids the pitfalls of calling for avowals of intrinsic value while in part preserving what is sought by environmentalists when they seek to establish such intrinsic value. The Hegelian position does necessarily entail the rejection of “animal rights” and of “rights” ascribed to the nonhuman sphere in general, but it also reveals such a rights-based discourse to be not only out of place here but is also unnecessary with respect to that sphere insofar as the environmental ethic implied in Hegelian ontology is not dependent upon the ascription of rights. The clarification of the category of life undertaken here will also reveal the worry about “anthropocentrism” to be based upon a mistaken ontology of both the living being *per se* as well as the human sphere more specifically. It will furthermore address and allay the kinds of concerns raised by Ramachandra Guha regarding the potential misanthropy of valorizing a nonhuman nature and making anthropocentrism out to be the enemy.³⁹

8. *Hegel's Methodology: An Immanent Ontological Development*

Whereas many criticisms of mechanistic reduction⁴⁰ have been carried out by opposing to it an account that is said to be more ontologically, definitionally, or empirically adequate, Hegel shows that these mechanistic categories are self-undermining *in their own terms*. Furthermore, the *Logic* shows that rendering them explicit necessarily entails their own supersession or negation in such a way that they *develop into* categories that *are* appropriate to living process, both ontologically and conceptually. When category A develops into category B, category B *is* category A rendered fully explicit. But it is not a matter of adding characteristics or additional features to A in order to arrive at B, because the development of A at the same time shows its own unsustainability. This does not mean that A just goes away; rather, it means that A can no longer serve as the guiding determinacy and is reduced to an underdetermination within B or a subordinate aspect within the latter that cannot define it.

The unsustainability of a category lies ultimately in the fact that what it shows itself to be can no longer be accounted for solely in terms of the defining determinacy of that category, and thus its demise at the same time entails the emergence of a new category that is more adequate. This is why Hegel will say that a more developed category is the “truth” of a less developed one. *Truth*, for Hegel, is what something shows itself to be when its own implicit determinacy is rendered fully explicit. Thus if the category of mechanism is self-undermining in this way, it not only does not remain a fixed determinacy, but the logical development immanent within its very content and structure leads to the thought of a living being that can no longer be conceived in the limited terms of that category. Hence mechanism cannot provide an adequate basis for the conceptualization of life. For this reason also the characteristics that are conceptually specific to life are irreducible to mechanism, which itself is demoted within life to the status of an underdetermination. In Hegel's *Logic*, the category of life shows itself to be the truth of mechanism rather than the other way around, and it does this neither by asserting the existence of a vital principle nor by providing an alternate account of nature opposed to the mechanistic one, but rather by thinking the very structure of mechanism itself.

If life is not reducible to mechanism—that is, if the conceptual features necessary for an adequate understanding of life cannot be exhaustively specified in terms of mechanistic determinacy—then living beings cannot be treated

as mere mechanisms without eviscerating the understanding of life. Insofar as what Hegel calls “external teleology” or “finite purposiveness” makes use of a mechanical process as something external and indifferent whose purposes lie outside it, that sort of reductive instrumentality is ontologically inappropriate with respect to life. In other words, if I treat a living being, the determinacy of which, as I will show, necessarily includes its own specific environment, as a mere means for purposes I externally impose upon it, then I am not treating it *as* life but *as* mere mechanism. But in order to treat life *as* life rather than as something it is *not*, I must first *understand* what life is; and that entails a critical examination of the categories in terms of which we conceive of “life” and of the mechanistic sphere to which it is often reduced. The ecosystem ethic defended here will not then be a matter of arbitrarily imposing some hypothesized or avowed “intrinsic value” onto entities that otherwise would not admit of such a thing. Rather, it will be merely a matter of carefully thinking through the logical structure of the *category* of life itself. Thus, the methodology of Hegel's *Logic* necessarily entails holding to a thoroughly immanent development of implications and, contrary to common perceptions of Hegel, is not moved forward “teleologically” by assuming a predetermined goal in advance.⁴¹

In addition to the assumption of an immanent method of derivation, a second interpretive assumption I will make is that Hegel's account of the categories in the *Logic* is not just epistemological but ontological as well. I take this to be a necessary assumption in that Hegel's project is to systematically derive every determinacy *without presupposing any underived determinacy*. If we assume at the outset that the categories derived in the *Logic* are merely epistemological, then we have assumed in advance an underived determinacy, viz. that which would distinguish between thought and being or, following Kant, something like the distinction between sensibility and understanding.⁴²

But as Richard Dien Winfield has pointed out,⁴³ this is not to assume a *positive identity between* thought and being, which leads to the charge of objective idealism (and would likewise assume the underived determinacies of “thought,” “identity,” etc.), but rather merely *refuses to assume* any distinction between them as given in advance. It is the *collapse of the distinction* between thought and being, or of the ability to distinguish between a “for us” as opposed to an “in itself” (which Hegel calls the “opposition of consciousness”), that constitutes the “absolute knowing” with which the *Phenomenology of Spirit* concludes and which paves the way for the systematic derivation of the

categories in the *Logic*. Thus, “absolute knowing” has no positive content, and is merely the suspension of presuppositions. If the “Being” with which the *Logic* in turn begins is not a reference to anything outside what is thought in that category, if, as David Kolb has pointed out, it entails no metaphysical commitments,⁴⁴ then the determinacies derived from its own content are what being shows itself to be. Hence the *Logic* is an onto-logy in the complete sense of a *logos* of being. And hence also the conception of life presented in the *Logic* articulates the ontological structure of life itself. Contra Vogel, the *Logic* claims to present what life is in itself and not just what life is “for us” as external consciousnesses.⁴⁵

Given the ontological character of the *Logic*, the ecosystem ethic defended here is an ontological one. As such it will entail examining the ontological category of life as articulated in the *Logic* and then situating the understanding thereby gained in relation to the character of human freedom as rational self-determination. In other words, I will argue that if human existence is defined by rational self-determination, then this implies the necessity of making that self-determination actual by adequately conceiving the categories that define the meaning of being. To put the same point negatively, it implies that the realization of our rational nature means we must at least try to *avoid misconceiving* the world in terms of inappropriate categories.

If Hegel’s account in the *Logic* is right, then we can say that the very mechanistic character of mechanical processes as such shows itself to be an underdetermination of living process. But because mechanical processes do function within living beings at the level of underdetermination, living organisms can be affected by mechanical forces and they obviously are at the empirical level. To the degree that life can be treated *abstractly*, that is, to the degree that life can be treated on a level of mere mechanism, mechanical forces can act upon it. But to the degree that life is treated this way, it is no longer being treated *as life*. Analogously, a human being can be treated as a mere physical object, and at a certain level of abstraction a human being is a physical object, that is, such a level of abstraction fixates upon an underdetermination. The mistake does not lie in the mere recognition that this level of determinacy is operative in a human being, but rather in the *reduction* of the human being to this level of determinacy alone as if it were exhaustive or “essential.” In such a case the human being is no longer being treated *as human*. Likewise with respect to the living organism, Hegel says that when something in the objective world does act upon it mechanically, “it is not

acting on it as on a living being.”⁴⁶ Mechanism does not provide the *basis* for the determination of life, but insofar as it is a necessary aspect of life it can make itself known in this way.

But what prevents Hegel's ontological account from becoming merely an “academic” theory which one can choose to regard or to disregard in practice? How can this understanding affect behavior? Or, to put it another way, how can ontology generate ethics? These questions assume a sustainable distinction between theory and practice, but for Hegel the comprehending character of thought is inseparable from practice; “theory” and “practice” are not at odds with each other. They are not distinguishable in terms of categories like form and content or possibility and actuality insofar as the *Logic* shows these distinctions to be unsustainable as such, i.e. they are unsustainable in their abstractness whereby each side of the distinction seems to be something self-subsistent standing over and against the other.

The mutual implication of theory and practice is more easily seen in the *Philosophy of Right*, in which it becomes clear that the *concept* of freedom is nothing less than *being* ethical (*sittlich*) in one's everyday activity and habit. Thus, if I regard freedom as sheer license to *do* as I please, if I behave as if what I really desire is the “freedom” to do “what I want, when I want,” this only shows that I have not *understood* freedom at all. The concept of freedom does not *mean* becoming ethical; it is not a signifier that signifies a content other than it. It does not merely *indicate* or *refer to* such activity, as if we could have the concept in our heads but still choose to do otherwise. For Hegel, the concept of freedom is *one and the same thing as ethical activity*. The concept is not a theoretical representation of an activity which is other than that activity. Thinking freedom is the ethical habit and way of life appropriate to freedom.

Along these lines, we may see that thinking life as life is not merely an academic exercise in theorizing that leaves practical reality untouched. Why not? Because *thinking* ultimately determines itself *as* practical reality. To regard this as a “merely” conceptual activity that has then to be “applied” is to naïvely regard thinking as a formal structure whose content is given to it externally, thereby surreptitiously presupposing a form/content distinction as something final. When we look back to the beginning of the *Logic* or at the culmination of the *Phenomenology of Spirit*, we see the same point in its most germinal stage: thinking is inseparable from being.

If we can draw from this a general rule that thinking a concept in its truth is to act in accordance with that truth, then thinking life will necessarily also include a human orientation toward living beings that is appropriate to them *as living*, that is, an orientation that does not act on living beings as on mechanical objects. Thus, an ontological understanding of life might foster a kind of ethic wherein thoughtfulness and corresponding behavior are a matter of course and to be minimally expected of reasonable human beings, a kind of habitual environmental *Sittlichkeit*.

If the essence of human nature is to be free, if freedom as self-determination is the form of rationality that characterizes us, then we are merely expressing that freedom when we allow our thought to be self-determining. We can only do this if we do *not* take our starting point from *givenness*, whether that be the givenness of empirical data, the givenness of an assumed set of logical rules, or the givenness of what “we” commonly accept (all too often the final court of appeal for ethicists).⁴⁷ From the Hegelian standpoint, all of these kinds of assumptions of givenness are dogmatic and un-self-critical to the degree that the categories in terms of which they are framed have neither been systematically derived nor explicitly examined. By the same token, to the degree that thought begins with givenness is the degree to which it is unfree, since thought must then be determined by *pregivens* other than itself. Thus, for thought to be as fully self-critical as possible and for it to be free in the sense of self-determination *are the same thing*.

Therefore, if we are to be fully free, we must allow our thought to be as fully self-determining as possible, which also means allowing it to be as fully self-critical as possible. If Hegel is right, this then means that *our own freedom demands that we conceive of life as life and not as mechanism, and that our ethical habit and activity reflect this conception*. Conversely, if Hegel is right about the inseparability of theory and practice, mechanistic theories begin to look rather ominous, and it is no wonder that many react against them at an intuitive level. It is not, as many mechanistic reductionists might contend, that mere human pride is at stake. It is rather the practice implied in any theory that rightly worries us, and hence trepidation regarding the practice implied in mechanistic theories is certainly reasonable, not only or perhaps not even especially with respect to humans insofar as there are at least laws in place that protect human rights, but also and especially with respect to nonhuman life. If nonhuman living beings are just mechanical objects, then

nothing prevents them from being subsumed by an external purposive relation that regards them as mere means to be used up and discarded.

The Hegelian account defended here might well be charged with “anthropocentrism” in that situating an ethical requirement that our habit and activity reflect the ontological understanding of life with respect to the rational freedom of human beings would seem to make it all about “us” in the end and so merely a matter of self-interest. All that matters is fidelity to my own rational character, and the nonhuman living being for its part really does not count for anything *per se*. But this objection is misplaced in that, on the one hand, the “us” in question here is not conceived as a collection of atomistic individuals thrust outside nature and thereby disconnected from living beings and their ecosystems and, on the other hand, the living being for its part is *precisely what is recognized as such* in attending to the category that articulates its ontological structure.

These considerations underscore once again why the *ontological character* of the *Logic* is important. If the latter were merely an epistemological account of categories structuring our understanding that ultimately have nothing to say about what things are in themselves, then it might well be suspected that the whole account is human-centered to the exclusion of the nonhuman. But if we suspend the Kantian distinction between thought and being, then the logical account of the category of life is not just an account of how things appear “to us” that leaves aside what they might be “in themselves” apart from “our” categories. No “in itself/for us” distinction governs it. Our own rational character requires that we understand what living beings *are in and for themselves*. It is this understanding that reveals the living being to *count for itself as living*, and *not* as a mere mechanism.

The ecosystem ethic I am defending here is an ethic in the etymological sense derived from Aristotle, signifying a habit of character. But, unlike Aristotle's conception, this habit of character is facilitated by the categories in terms of which we understand the world.⁴⁸ If I understand life in a certain way, then it becomes a matter of course to treat it in a manner consistent with the way I understand it, just as for Kant how we treat other human beings will be shaped by whether we understand human beings in general to be things with a price or autonomous beings with dignity.

9. *Launching Into the Logic*

In the exposition provided below, I will first provide a brief gloss of the logical development of mechanism, chemism, and teleology up to the point that the category of life first appears. Then I will outline Hegel's development of the category of life, spelling out the determinacies necessitated by it and which must, according to this account, constitute the minimal features of living things. The Hegelian claim is that whatever else life may be, it must at least entail the determinacies outlined here. Based upon this development, I will then argue that Hegel's account implies a *prima facie* ethical imperative to avoid destroying species and their ecosystems, and that something like Hegel's immanent and systematic derivation of categories is needed to provide adequate philosophical grounds for such an ethic. This "imperative" is not absolute, however, and may be superseded by other concerns, and so it no doubt will remain "anthropocentric" in the eyes of some environmentalists. However, not all anthropocentrisms are the same and, taking Ramachandra Guha's critique into account, Hegel's particular version is not only defensible but more consistent with environmental preservation than the flat-out rejection of anthropocentrism *per se* in all possible forms.

10. *From Mechanism to Teleology*

Hegel's *Science of Logic* is divided into three parts: the logic of being, which generally speaking is the sphere of immediacy; the logic of essence, which is the sphere of mediation; and the logic of the concept, which is the sphere of self-determination. Following what I take to be Hegel's usage, I will understand "the concept" to be a self-determining movement or process rather than a mere mental representation or construct. The categories of mechanism and chemism appear in the logic of the concept and together comprise the sphere of "external objectivity," whose basic ontological characteristics, according to Hegel, are *externality* and *indifference*.⁴⁹ Thus I will use these latter two terms to refer to the mechanico-chemical sphere in general. What "externality" and "indifference" mean is that any *determining* of objects that are characterized in this way is *external* to them and is something to which they remain *indifferent*.

This is the conceptual determinacy we presuppose in the everyday notion of a machine. For instance, an automobile engine "runs" when the spark plugs fire igniting the gasoline whose explosion drives the pistons which in

turn rotate the axle and turn the wheels. Each element in this mechanical process—the spark plug, the gasoline, the piston, etc.—is external to the other elements and is completely indifferent to any activity of those elements with respect to it. Any purpose that the piston's movement may serve—e.g. turning the axle and thereby imparting motion to my car so I can drive to work—is something to which it remains utterly indifferent. To put it in more colloquial terms, the piston does not care whether it is used to drive a car or even if it is used at all for anything.⁵⁰ Even the self-regulation of a cybernetic system, such as a steam engine that regulates its own flow of fuel relative to its speed (or the “cruise control” function on many automobiles today), is characterized by the indifferent externality of its functional elements in this way.

But at the same time, it is through this very indifferent externality that each element appears as a subsistent object in its own right independent of the other objects in the mechanical process. The very independent self-subsistence implied by the conception of an *object*, its object-character as something that is “there” independently of any observing consciousness or of any other object, is gained through its externality to other objects and its indifference that makes it the same object regardless of what they do. Even when it is destroyed, as when a stone is shattered, each resulting fragment is again an object that is external and indifferent to the others. Hence, at this level of analysis, the same determinacy is merely repeated even if other (empirical) characteristics are altered, much as Descartes's famous wax maintains its character of external extension across its sensory modifications.⁵¹

But herein lies the self-contradiction implicit in this determinacy, a contradiction implied by its character as a self-subsistence established through indifferent externality. The contradiction is twofold. On the one hand, the mechanical object is self-subsistent or independent *through* its indifference and externality; because of its thoroughgoing indifferent externality it is indifferent and external not only to other objects but to its own determinacy as indifferent externality as well. But this can only mean that it must be determined to be a mechanical object externally, and therefore is *not* self-subsistent or independent. That is, insofar as it is determined *externally* to be what it is, its *self*-subsistence is undermined, yet it is this very externality that gives it self-subsistence in the first place. On the other hand, mechanical objects are mutually indifferent and external and at the same time are completely indistinguishable to the degree that they each have the identical determinacy of “indifferent externality.” *Because* they are utterly external, they

are utterly indistinguishable. But if they are indistinguishable, they cannot be mutually external. And if they cannot be mutually external, they cannot be self-subsistent objects. Therefore that which gives mechanical objects their self-subsistent independence at the same time takes it away from them.⁵²

This indicates what Hegel calls a “negative unity”: in their very externality, in their not being identified with each other, the objects are completely identified with each other. That is, insofar as an object is defined as externality, it requires other objects that are not only external to it but also determine it to be external. To be external it has to be determined externally, and this implicitly unifies it with that externality it needs to be what it is. This is a negative unity insofar as the objects are identical precisely by being mutually external, and it constitutes what Hegel calls “the mechanical process.” At first this external determining appears to undermine the self-subsistence of objects. But the object needs this externality in order to be what it is—a self-subsistence through indifferent externality.

When the implicit *reference to* other objects can no longer be conceptually maintained as something external to objects insofar as each object only is what it is in relation to those other objects, we get the *non-indifference* of chemical relations.⁵³ The contradiction of chemism lies in the fact that chemical objects are unified in their common determinacy as objects and simultaneously held apart because of the same determinacy. At an implicit level the unity of objects is precisely their oppositional tension, i.e. objects are unified in that each is what it is through the other and so each is inseparable from that other. At an explicit level there are two objects over and against each other.⁵⁴ But the unity here is more explicitly negative than it was in mechanism insofar as each is what it is by not being the other, and so each needs that other to be what it is. The tension between the implicit unity of objects and their explicit mutual opposition (which is their implicit unity) generates the movement that chemism is.

To the degree that their explicit mutual opposition is seen to be distinct from their implicit unity through the same opposition, these two sides of the same process appear as an oscillation between opposition and a neutralization of that opposition in unity.⁵⁵ However, once it is no longer possible to maintain the separation between these two sides of the same process (insofar as they are the same process), the chemical process is seen as itself giving rise to the very externality that makes it a chemical process. That is, it is no longer possible to assume an external determiner for the determinacy present here,

i.e. for the determinacy of externality itself. The whole process brings about the very externality (mutual opposition) by means of which it achieves unity with itself through the negation of that externality (neutralization). In other words, the chemical process establishes its own presupposition.⁵⁶

The status of externality is hereby altered: it is a necessary aspect of the self-determining process but is no longer the predominant determinacy. But insofar as the chemical process establishes its own presupposition in order to be the chemical process that it is, this "in order to . . ." indicates a relation that is no longer conditioned externally and so is not *driven mechanically* to be what it is. Or to put it another way, in bringing about the determinacy of externality through which it is what it is, the "through which" indicates a different sort of relation, one that might be better characterized as a *means to an end*. Externality turns out to be the *means* whereby the process is what it is, and to this degree the latter has become more explicitly self-determining. The only thing that has prevented this up to now is the fact that the process has been conditioned by something external. But now that any such externality is itself seen to be something posited by the movement itself, the whole movement is no longer conditioned externally. In bringing about externality as the means through which it achieves its own determinacy, the whole process at this point shows itself to be *purposive* rather than being mechanically *driven*. A *teleological* relation has emerged.⁵⁷

At this point Hegel examines the logic implicit in the concept of teleology, a logic that will lead us to the idea of life. Even though the determinacies to be drawn from that logic do not depend upon the prior assumption of life insofar as the latter is a category yet to be developed, nonetheless only in the sphere of life will we encounter teleological structures that readily lend themselves to empirical recognition. This renders the account of teleology unavoidably abstract, and it means that we must conceive the determinacies of teleology without recourse to the kinds of empirical examples that make the accounts of mechanism, chemism, and life more readily accessible. In the context of the present study, we might think of the determinacies of teleology as variations on how we can conceive of purposive action or a means-end relation in general without yet positing agents of such action or relation (at least not beyond the chemical level of determinacy already developed), variations which imply a certain logic of development.

11. From Teleology to Life⁵⁸

The mediating structure in purposive activity is the *means* insofar as the means is *that through which* that activity can be purposive. Every purposive activity requires a means of its realization. But the means destroys itself in its service to its end or purpose, thus negating itself.⁵⁹ The *Logic* shows that through its intrinsic self-contradictions the means as external objectivity is, as demonstrated in the accounts of mechanism and chemism, already negated in itself and hence, regarded in and of itself in terms of its determinacy as indifferent externality, it is a nullity. But it is precisely *because* it is an intrinsic nullity that it can then be something ready and available for purposive activity to make use of and thereby first become a *means* to an end at all. Its intrinsic nullity makes it inherently susceptible to the activity of purpose in it. There is nothing in it to resist its use as a means to an end.⁶⁰

Initially this appears as an “external” or “finite” purposiveness making use of an indifferent externality that falls outside the purposive activity making use of it. However, this appearance of an immediacy that falls outside purposive activity is merely a semblance that persists only so long as we fail to notice that the very *character* of the means *as* external-indifference-outside-purposive-activity is *itself brought about by* purposive activity as its own necessary presupposition (as we saw in the development of chemical determinacy). Only thereby can purposive activity be purposive. Therefore the self-negating character of indifferent externality (i.e. the mechanico-chemical sphere of determinacy) is the very *identity of* purposive activity.⁶¹

This means that “the concept” or the self-determining movement here places *itself*, that is, its own identity as self-negating indifferent externality, outside itself as an object that is *not* determined by it. Only thereby is this object external, indifferent to what happens to it, and *thereby suitable* to serve as a means for an end. The self-determination here is the bringing about or “positing” of an object as something *not* determined by the self-determining movement. The very immediate externality of the object is made necessary by the concept in its self-determination, and the former must be established if purpose is to have something to work with.⁶²

The objective sphere as such is now constituted *as* the immediate externality of purposive activity, “immediate” because it is posited as something not posited. The object is not first “there” and then *subsequently* constituted this way. From the first, i.e. *in every sense of its immediacy*, it is so constituted as a means. Thus, the object in its immediacy shows itself to *be* the activity

of purpose, and therefore it is the same thing to speak of the self-negation of external objectivity as a means, on the one hand, or to speak of the purposive activity that establishes the semblance of an object as something self-subsistent against it and then cancels this semblance, on the other hand. If we were to imagine that *first* there is an object and *then*, subsequently, this object is disclosed as the activity of purpose, we would tacitly assume an immediacy outside purposive activity that is not brought about by the latter. But this could only be external/finite purposiveness again, and that is precisely what the *Logic* shows to be superseded insofar as the indifferent externality of the means is precisely what purposive activity needs it to be in order for any purposes to be carried out.

Mediation here does not *undermine* immediacy but rather *establishes* it. The object *as object*, in all of its externality and immediacy, even in its immediate character as *not* something brought about by purposive activity, is exactly what purposive activity needs it to be in order to carry out purposes, and hence that character of immediate externality constitutes the determinacy of the teleological relation. Insofar as such immediate externality belongs to the determinacy of purposive activity, the latter has objectified itself. It has dissolved any remaining gap between purposive activity and the external objectivity of the means. From the foregoing considerations we can see why Hegel remarks that the account of the ontological development here is “doubly difficult and entangled.” Insofar as ontological determinacy in the sphere of objectivity consists of indifferent externality, the self-determining movement “is in reciprocal action with itself” and so the movement “is immediately itself double, and the first is always a second.”⁶³ To put it another way, the self-determining movement at this point shows itself to be a process that is its own result. The double difficulty arises from the unaccustomed thought of a *self-mediating immediacy*, wherein both immediacy and mediation are each given their full due in one and the same movement.

From this we can also see that externality is not *subsumed under* purposive activity, as if the former were something external to the latter, but that purposive activity can only be what it is in and as external objectivity, while the latter, as a means, is the objectivity that it is in and through purposive activity. Insofar as the external objectivity of the means belongs to the ontological determinacy of purposive activity itself, that means is no longer merely external to the purposive activity that acts on it. There is an objective totality that is the side of mediated *immediacy* (the means), and there is

equally the unity of the self-determining movement which is the side of *mediated* immediacy (purposive activity), and these two sides together constitute a single unity, the full identity of “the concept” as a self-determining process and its objectivity.

Thus, McTaggart is right when he remarks that “we have come to the conclusion that End and Means are not two realities connected with each other, but two aspects distinguishable within a single reality.”⁶⁴ Once end and means coincide, the teleological relation is no longer being conceived as an external one. The means is not external to purposive activity, nor is the end achieved external to the means. Hereby purposive activity is realized in such a way that *as purpose* it actually has *itself* for its means and end, not in *abstraction from* immediate externality, but *as* immediate externality. This fully realized purposive activity constitutes a completed “objectification” of “the concept” insofar as the self-determining movement that is “the concept” has found its self-determination *in and as* external objectivity. Such a fully realized purposive activity that has itself for its end is the minimal concept of *life*.⁶⁵ A living organism then is a self-related external objectivity that is its own end.

In this way, we do not have to add anything to mechanical determinacy, like some sort of “vital principle” for instance, in order to think the specificity of life in a nonmechanistic and nonreductive way. We have only to think the determinacies implicit within the concept of mechanism itself, which means undertaking the labor of thought in rendering explicit every implication contained in the standing contradiction that indifferent externality is. Then and only then do we realize that life is rigorously irreducible to mechanism, not because life is something *else* other than mechanism and is set in contrast to the latter, but because of what the category of mechanism itself turns out to be.

In that purpose is thoroughly objectified it is no longer something merely subjective or one-sided standing over and against an objective process established independently of it. This unity of the subjective and the objective Hegel calls the *idea*, the initial form of which is life, wherein objectivity fully corresponds to self-determining movement. Accomplished or realized purpose is simply the cancellation of the semblance of externality that seemed to postpone its realization, or the cancellation of the illusion that purpose has not been realized. “This illusion is that in which we live, and equally this same illusion alone is the setting-in-motion [*Betätigung*] whereupon interest

in the world rests.”⁶⁶ In other words, this illusion is the activating principle that motivates interest in the world and thereby also the purposive activity of finite beings, an illusion necessary for purposive activity to be carried out.

Hegel further writes, “The idea in its process makes itself into that illusion, posits an other over and against itself, and its activity consists in superseding that illusion. Only out of this error does truth emerge, and herein lies reconciliation with error and with finitude. Otherness or error, as superseded, is itself a necessary moment of truth, which only is in that it makes itself into its own result.”⁶⁷ Truth is the full correspondence of concept with objectivity, the actualization of purpose in and through external objectivity through which it cancels the semblance of an externality over and against it, which activity is one and the same as the process whereby external objectivity shows itself to be purpose. In this sense life is the truth of mechanism, not the other way around.

Without presupposing any determinacies that have not been derived prior to the appearance of mechanism in the *Logic*, Hegel's derivation shows that the mechanical level of determinacy is unsustainable in its own terms insofar as it logically entails its own determinate negation. The new level of determinacy generated out of the final unsustainability of the mechanico-chemical sphere is the category of life, which is shown to necessarily entail purposive activity and self-determination as opposed to the merely mechanically driven processes of external objectivity. The “merely” in the previous sentence does not indicate that life is something else added to mechanism, but rather that life is a determinacy that is both implied by mechanistic determinacy itself and at the same time cannot be accounted for in purely mechanistic terms. In living process, mechanistic determinacy in turn becomes reduced to the status of an underdetermination—operative as a necessary aspect of life but no longer as a guiding level of determinacy.⁶⁸

Hegel's demonstration of the intrinsic nullity of indifferent externality as such—viz. its unsustainability as something independent and self-subsistent that could constitute a ground of determinacy for life—will be assumed in the following analysis of life.⁶⁹ This paper also concerns only the ontological difference between living systems and mechanical ones as conceived at a certain level of abstraction, and not the differences among the various forms of living systems themselves. An inquiry into the latter topic would require a detailed exposition of Hegel's treatment of living beings in the *Philosophy of*

Nature and also an account of the relation of this treatment to the empirical sphere in general, both beyond the scope of this paper.

12. *Life*

Life is initially manifest in the ontological sequence as “realized purpose.” That is, life is a purposive activity and so is not merely driven from behind in a mechanistic fashion. But rather than the external purposiveness whose content, the end sought, is other than the form of purpose or the purposive activity itself, life is a purposive activity that it is its own end. To live is to be a self-maintaining organism whose end is . . . to live. Living organisms do not live in order to do or achieve anything else; they are objective beings that live simply in order to live.⁷⁰ Hegel’s treatment of teleology shows that purpose must have a means of objectifying itself if it is to truly be purposive at all, and therefore it needs something external and objective, viz. it needs the mechanico-chemical sphere (external objectivity). On the other hand, insofar as external objectivity shows itself to be a self-negating process, it cannot stand on its own independently of the purposive activity which is its truth. Thus the semblance that external objectivity can be something self-subsistent independently of purposive activity falls away. The *seeming* independence of external objectivity is both brought about and canceled by purposive activity, and it is precisely in this that the latter’s purposive character consists. Purposive activity is then seen as being one and the same thing as the self-negating mechanico-chemical process itself: in purposive activity the self-negating character of mechanism becomes explicit as such, and so such activity consists in letting the self-negating mechanico-chemical process show itself to be that, viz. a self-negating process whose truth is life, thereby establishing a semblance of its independence and then canceling that semblance. With the full identity of purposive activity and the self-negating mechanico-chemical process in the living organism, we get a full identity of form and content.

13. *Life as an Ontological Category: The Living Body*

The mechanico-chemical sphere, no longer constituting a guiding set of determinacies, is shown to be a subordinate aspect of purpose through which the latter realizes itself. Given the identity of purposive activity with external objectivity, the result of that activity, its end, is itself an objective be-

ing. This objective being is an organism, viz. a living body. Life is externality, but an externality which no longer appears as independent and indifferent outside of any self-determining process (as ontological determinacy did in the mechanico-chemical sphere). In this way purpose realizes itself as its own end in something objective whose very externality is self-determination. That is, purpose realizes itself as a living body.⁷¹ Life is not self-determination *as opposed to* externality, but is the self-relation of externality.

Life initially shows itself to be a two sided concept.⁷² The living individual contains externality as part of its own determinacy, but it is nonetheless distinct *from* its objectivity insofar as it is the unity of its objectivity. That is, although in the living organism self-determining process is unified with objectivity, they are nonetheless conceptually distinct. The very thought "x of y" implies a distinction between x and y. The living body is this unity as well as separation, and so life has two sides which can be indicated in the same concept by way of shifting the emphasis:

- 1) The *unity* with itself in objective multiplicity: this unity is its identity whereby it is a living individual.
- 2) The unity with itself in objective *multiplicity*: insofar as it remains itself in this plurality it is a universality pervading it.

The living being relates itself to objectivity through its body. That is, its own body becomes for it the means of relating to objectivity and unifying itself with the latter. At the same time, the living being relating itself to objectivity is nothing other than the self relation of that same objectivity, i.e. the living body. As yet the objectivity present is not *outside* the body of the organism, which is both means and end.⁷³ In the self-relation that is life, the body is both the means of that relation as well as the end or purpose of that relation. This is the structure of a purpose that is its own end, in which means and end coincide, and this kind of self-relating objectivity is the living organism.

Objectivity is the mutual externality of multiple objects which, with the development of the category of life, has been taken back into the self-determining movement which they express. Thus, with respect to its externality the organism is a manifold. This manifold, however, is not one of *parts* but of organic *articulations* (*Gliedern*),⁷⁴ each of which produces itself by means of the others and which is a means in turn for their production. Each articulation in turn manifests the teleological activity of purpose realizing itself. Otherwise, the articulations would fall apart into mere mutual externality and there would be no living organism proper.⁷⁵ Each articulation is a subordinate

determinacy *within* the total organism and simultaneously is implicitly that totality (since as an *organic* articulation it is nothing outside organic unity). Through this mutual teleological activity among all of its organic articulations, the whole organism maintains itself as an organic unity. Here we might conceive the articulated whole of an organism composed of mutually relating and supporting organs and systems—the respiratory, circulatory, and nervous systems, etc., or at the cellular level the organelles inside the cell itself—which, in a mutual interaction through which each in turn serves as end and means, maintain the life of the organism.

These articulations are unified through their differences in organic unity insofar as each performs a necessarily different function in maintaining the whole (even if that difference is merely the replication of a previously existing articulation and function). However, considered in their externality they are nonetheless separable, a separability that in principle remains a possibility insofar as the living body is, after all, a self-relation of *externality*. When the organic articulations are separated they reduce to the mechanical sphere, no longer aspects of life or, more precisely, no longer aspects of the organic unity they once maintained. The body disintegrates into parts that revert to mechanico-chemical processes—that is, the body decays. But this shows that in their *manifold externality* they are still in some sense contrary to the *unity* that life is, and yet at the same time their externality is the objectification of purposive activity through which life is a unity in the first place. This generates a contradiction in the category of life: the *objectification of life is contrary to life*, a contradiction that will show the further determinacies of pain and death to be necessary aspects of organic life. Hegel's exposition of this category attempts to think the contradiction through to its resolution.

14. Sensibility: Organic Receptivity

In the initial form of the category of life the mutual externality of its articulations, insofar as they are mutually *external*, is dissolved in organic unity. This manifold of articulations is not dispersed into mutual externality and indifference, in which case there would be no living organism at all, but out of its seeming independence it is *brought back into* the immediate universality of the living organism. Insofar as this externality is thereby *brought back into* the immediate universality of the unified organism (through the intrinsic nullity of indifferent externality as such), the organism as this universality shows itself to be *receptive* to the externality thus brought back into it, i.e.

it receives it as *its own* determinacy. This receptivity to manifold externality is *sensibility*.⁷⁶

The external manifold is received into the simple unity of organic identity. In its receptivity to externality the organism is simultaneously receptive to *its own* self unity, which that externality has shown itself to be (insofar as the self-relation of externality is the unity of organic life). For this reason, in receiving externality it receives and intuits its own identity. Thus Hegel says that “the singular external determinacy, a so-called *impression*, returns out of its external and manifold determination into this simplicity of *self-feeling* [*Selbstgeföhls*].”⁷⁷ From the perspective of any living organism the body is always “mine,” and this indicates an affective level of subjectivity in life prior to the emergence of a conscious ego. “Impression” (*Eindruck*) here names an external determinacy insofar as it appears *as* external—i.e. it indicates the established semblance of an independent externality we saw earlier in Hegel's treatment of teleology—whereas “self-feeling” names the negation of this semblance that brings it back into unity. Sensibility is a feeling of self through receptivity. In this manner the living organism maintains itself through its externality.

15. Irritability: From the Individual Organism to the Environment

Sensibility is the *immediate* universality of a living being through its organic articulations insofar as in it externality is merely dissolved into unity. The organism affectively senses its self-identity as an organism through this dissolution. The unity of the organism is a unity of difference, but it is only so as a dissolution of the differences that seem to stand on their own, i.e. a dissolution of the *mere* mutual diversity of organic “parts.” This mutual externality of bodily articulations is contrary to life insofar as, regarded *solely* in their mutual externality, there is no life. Thus the mutual externality of organic articulations, taken in abstraction by itself, is a *negativity* with respect to life. Organic unity at this stage is the immediate identity of a merely dissolved negativity. Insofar as its unity is a *dissolution* of its differences, there is a tension between difference and identity, even though the differences here actually *constitute* the identity present. It is the immediately positive *identity* of differences that have been merely dissolved, and so the *difference between* the mutual externality of organic articulations on the one hand and organic unity on the other falls outside this identity. Thus there is still a difference here between “difference” and “identity.”

The more developed form of the contradiction now is this: the mutual externality of organic articulations is the very external objectivity through which the living being is what it is, yet in their mutual externality *per se* they are contrary to life, so a living being maintains itself by dissolving this mutual externality. It cannot *not* do this and remain life. This initially seems to drive a wedge between difference and identity. However, since the living organism is alive only *as* the self-relation of this very externality, in the *dissolution* of this externality the organism is precisely *a negative relation to itself*. If the mutual externality of organic articulations were simply annihilated there would be no externality, and hence there would be nothing there to be self-related, which means there would be no life at all. For this reason sensibility cannot come to rest in a quiescent positive identity; it cannot live without the differences it has dissolved into organic unity. Hence, it must as it were resuscitate that very external multiplicity out of its dissolution. It must dissolve those differences and at the same time preserve them. But the resuscitation of external multiplicity drives the living being away from its own self-unity in sensibility. The living organism is thereby driven outward in a kind of self-repulsion; insofar as it negates itself it is driven out of itself. Its “inwardness” is therefore also immediately “outwardness.”⁷⁸

In the negation of the mere mutual externality of its articulations, sensibility must establish or assert itself as *different from* that mutual externality. Yet at the same time it only is what it is *as* the self relation of that externality. Therefore as a *negation* of itself it is established as *different from itself*.⁷⁹ This is the reappearance of the distinction we saw at the beginning between living unity and the external multiplicity of its body. However, that distinction was a difference merely given in the initial shape of the category of life. We can now see a new development: insofar as the living being through its own immanent dialectic must assert itself *as different from* the mere mutual externality of its articulations, it *establishes* a difference rather than merely *dissolves* difference.⁸⁰ To put it another way, the dissolution of differences in organic unity therefore itself establishes a new difference, viz. that between organic unity and mutual externality.

Now insofar as life hereby establishes its own externality, the externality necessarily implied and required by living process in order to live, as different from it, this externality as it were appears to be something “presupposed,” i.e. as something already there confronting it and different from it.⁸¹ In order to really appear as something different from the living being, this externality

cannot appear *as* something that has been brought about by life but must appear as a presupposed givenness. In this way the self-determining activity of life brings about a real determinate difference between itself and a presupposed external objectivity. At a new level of determinacy, this structure of a presupposed external objectivity that has not been brought about by life replicates the teleological structure noted earlier in which self-determination brings about or “posits” an object as something *not* determined by the self-determining movement.

Insofar as this presupposed external objectivity is established as different from the living being, it is distinct from the externality that is the living body of the organism. The externality of the body is brought back into an affective unity, thereby dissolving the negativity of its difference. Insofar as life dissolves negativity it simultaneously unifies itself and negates itself, and so we can see that in one and the same movement life is the unity of sensibility and the self-repulsion that establishes an externality as different from it. Hegel calls this determination of life “irritability.”⁸²

At this point we can think sensibility as a receptivity to external things other than the body of the organism, a receptivity that reveals the very externality of those external things to be in itself a determinacy that necessarily belongs to living process. This presupposed external objectivity no longer immediately belongs to the organism as its body. It is no longer *dissolved* in simple unity but is established as something different from the living being. Insofar as the living being, for its part, is now established as different from a presupposed external objectivity, it is now something particular in relation to other objective things. The organism now finds itself confronting a presupposed objectivity, a *world or environment* over and against which the organism is a particular being.⁸³ *With this development we can think of life as constituting its environment through its own self-determining process.* Living process determines what will be an environment *for it*, and it can do this because the environment is implicitly *its own* externality.

Life transforms its own negativity into the limitation whereby it can be the particular life form that it is. In establishing its own externality as something different from it, the living being confronts a presupposed objectivity no longer *immediately* its own. That is, the presupposed objectivity is no longer its body. But what has been established as different from it is nonetheless still *implicitly* its own externality, and its own externality *is* its body, determined as a living organism. For this reason the externality established as different

from it must include the determinacy of externality that has been previously established, that of a *living body*, albeit no longer a body that is *its own*. This has to be the case insofar as the externality present here is that which has already shown itself to be self-negating and hence a living body.

Thus the externality established as different from the living being has to be another living body as well as the other mechanico-chemical determinations of objectivity, with respect to which it is the particular living body that it is. Any other living body, for its part, is likewise constituted in the same way, and so it also necessitates an externality established as different from it, one which includes the determinacy of living bodies. There cannot be just one living body; there must be an indeterminate multiplicity of living bodies. To put it in terms of categories developed much earlier in the *Logic*, *difference* thereby passes over into *diversity*. At this point it is not that one living being actually begets others, but rather that the idea of life *logically requires* that there be a multiplicity of living organisms and external environments in which they live.⁸⁴

Only at this point can we say that not only do the internal functions of an organism operate in a mutually teleological relation for the purpose maintaining the life of the organism, but also that an external environment necessarily belongs to the way the organism keeps itself alive as well. The living process of an organism drives it outward into the presupposed external multiplicity of its environment only to make that environment explicit as a life support system for the organism itself. It is here that external multiplicity in the sense of a presupposed externality outside of organic unity is itself seen to be necessary for that very organic unity, and thereby is taken back into the latter as part of its own living dynamics. Here we might situate something like the “Gaia hypothesis” which asserts that apparently inorganic environments are brought about by living organisms and thereby constitute part of their life processes (a model to which I will return in a discussion of Richard Lewontin below).⁸⁵ Here we might also conceive of something like Richard Dawkins’s notion of an “extended phenotype” in which not only the externality of inorganic mechanism but also other living beings can function within an organism’s phenotype in a way that is in principle no different from the functioning of its own internal organs and systems. Thus, rather than regarding the human use of horses as something that simply lies outside the human organism, it is seen as part of a unified human-horse organic system

just as much as a bird's nest can be seen as an extension of the bird's own phenotype.⁸⁶

In its relation to a presupposed world, the organism is relating itself to its own externality as a negativity which has been thrust outside it. But because the externality of the presupposed world, qua *externality*, is actually the very identity of the living being, to negate it is to negate that through which it lives. Yet only in this way can life *be* what it is. Life is thus an identity in dissension. This contradiction is manifest in life as *need*, viz. the need to cancel the otherness of its own negativity and thereby to explicitly be the living being that it is determined to be, viz. the self-relation of externality.⁸⁷ Need is not merely a mechanico-chemical relation, but is a relation to externality that is set up by life itself.

Insofar as life is not the self-externality characteristic of mechanism, it cannot be indifferent to its own determinacy the way a mechanical object is. This means that the living organism cannot be indifferent to the dissension that it is, and so this dissension is manifest in its sensibility. In Hegelese, the dissension is not just "in itself" but also "for itself" within the living being. This non-indifference to the dissension constituting the very determinacy of the living being is *pain*.⁸⁸ In this way we can provide ontological grounds for why life can and must experience pain, for why life suffers. We can contrast this to the mechanical object which is indifferent to its own negativity (viz. to the specific self-contradiction constitutive of the category of mechanism). The negativity of the mechanical object appears outside it insofar as to be a mechanical object is to be indifferent to its determinacy, and for this reason the mechanical object cannot experience anything like pain.⁸⁹ Even plants are not indifferent to what happens to them, a non-indifference reflected in the fact that we speak of plants being injured or of going into shock upon being transplanted; we do have the sense that plants can be *harmed*, whereas rocks cannot. If Hegel is right, this way of speaking about plants is not inappropriate or merely anthropomorphic.⁹⁰

16. Reproduction

Sensibility is the dissolution of external multiplicity in the immediacy of self-feeling. This immediacy is superseded when real difference is established as a presupposed objectivity through which the organism is something particular among a diversity of other beings in an environment. But this movement outward, i.e. its particularization, is *nothing other than* the very self-related

negativity that the organism is. The movement outward (self-repulsion, irritability) is what constitutes life as a particular living being among other living beings in an external environment, and in this movement outward it establishes its own determinacy as a concrete living individual.⁹¹ Thereby Hegel's development of the category of life passes from the individual to what is different from it and then back to the individual, only now an individual constituted by that difference and thereby rendered more concrete.

Externality thereby no longer appears only as an immediacy that has to be *dissolved* (sensibility) or merely as an immediacy *against which* the organism is something particular (irritability). Life is no longer a unified organism *in spite of* or *against* external objectivity, but *in* and *as* external objectivity. In this way the organism *produces again* the unity that it is, only this time *as* a concrete unity mediated with itself through differences that are now explicitly established as its own. Because we do not merely wind up back at the same determinacy but arrive at a more developed form of it, Hegel calls this *reproduction*.⁹² By standing in a negative relation to itself (i.e. to its own externality) life thereby reproduces itself. This is not yet the reproduction of *another* living individual, but rather is the organism's reproduction of itself. We might understand the continual renewal of cellular structure characterizing living things as reproduction in this sense, and as belonging to the ontological determinacy of what it means to be alive.

Only at this point does Hegel assert that "life is *concrete* and is 'aliveness' [*Lebendigkeit*]." ⁹³ As this concrete aliveness, life contains the self-feeling of sensibility as well as a "hardiness" or "power of resistance" (*Widerstandskraft*) which it gets from its character as a being that maintains itself against a presupposed external objectivity (viz. as irritability). The organism is now a concrete living being among other living beings in an external environment. The category of life, when explicitly conceived according to the implicit logic of its own immanent determinations, is seen as a life process that opens out beyond the enclosed self-feeling of the organism. In this way "the process of life locked up within the individual passes over into the relation to a presupposed objectivity as such."⁹⁴

Violence upon the organism is possible from its external side, but then it is no longer being treated as life but as a mere mechanical object in general. If externality is to enter the organism in a way that is appropriate to it as a living being, however, that externality must be transformed into something suitable to the organism.⁹⁵ For this reason in his earlier analysis

of the category of causality Hegel had indicated its inappropriate use with respect to life, noting that

we must especially take note of the *illicit application* of the causal relation to relations of *physico-organic* and *spiritual life*. Here what is called cause does indeed show itself as having a different content than the effect, but for the reason that what acts on a living being is by the latter independently determined, altered, and transformed, *because the living being does not allow the cause come to its effect*, that is, it cancels it as cause [*sie als Urhafte aufhebt*].⁹⁶

The character of life is such that it does not “*admit into itself another being as is*” or “allow a cause to continue into itself, but rather interrupts it and transforms it.” For this reason Hegel claims that it is an inappropriate use of categories to say that food is the cause of blood or that the particular climate of ancient Greece caused the Homeric epics, etc.⁹⁷ But by the same token, for this reason it is an inappropriate use of categories to say that the behavior of living organisms is caused by mechanisms.

Hence if externality enters into a relation to the organism, it does not act as cause but as *stimulation*.⁹⁸ The stimulability of the organism is a further determination of irritability. It is not that life exists in some supernatural or supramundane sphere which is exempt from causal forces, but rather that insofar as it is a living being it makes externality its own, and this making-externality-its-own is simply the process of making explicit what externality already is implicitly, viz. a subordinate determinacy of life. Thereby this development merely further specifies the process of life as a purposive activity that is its own end.

At this point we can draw some further comparisons with the contemporary biological understanding of ecosystems and the ways in which organisms fit within them. Against the view that “the environment” is something predetermined by nature and set over and against us, or we might borrow Hegel's terminology and say against the view of the environment as an immediately given realm of external objectivity independent of living organisms, Harvard geneticist Richard Lewontin writes:

First, there is no “environment” in some independent and abstract sense. Just as there is no organism without an environment, there is no environment without an organism. Organisms do not experience environments. They create them.⁹⁹

Consequently, according to Lewontin, “we can know what the environment of an organism is only by consulting the organism.”¹⁰⁰ In Hegelese, the determinacy of the organism determines what can constitute an appropriate

environment for it. Lewontin further defines “environment” as consisting of “an organized set of relationships among bits and pieces of the world,” which organization has been created by “living organisms themselves,”¹⁰¹ concluding that we “must replace that adaptationist view of life with a constructionist one.”¹⁰²

Mirroring Hegel’s argument that “life” alters a causal force that affects it so as to make it its own, Lewontin claims that “organisms actually change the basic physical nature of signals that come to them from the external world.”¹⁰³ For instance, my body allows the rising temperature in a room to affect my liver not in terms of temperature at all but rather as a change in blood sugar concentration.¹⁰⁴ Even the venerated “law of gravity,” celebrated by Alan Sokal as the trump card forever refuting constructivism,¹⁰⁵ is only allowed to affect us and thereby become a relevant aspect of our environment because of our genetic structure that brings about a specific weight and size, unlike a “bacterium living in liquid,” for instance, which “does not feel gravity because it is so small and its buoyant properties free it from what is essentially a very weak force.”¹⁰⁶ Even though the law of gravity is not relevant to bacteria and so is not admitted into their environment, “Brownian motion is relevant to them but does not appear in a human environment at all.”¹⁰⁷ Thus “the physical forces of the world, insofar as they are relevant to living beings, are encoded in those beings’ genes.”¹⁰⁸ The living organism quite literally presupposes an external environment that is established by it, revealing the latter to be part and parcel of its own life process. Philosophy and biology here independently converge upon the same structure, the former providing an ontological framework for the latter’s empirical observations.

Let us pick up the thread of Hegel’s development again with respect to reproduction. The organism relates to its presupposed externality in terms of its need to cancel the semblance of an other confronting it, thereby overcoming the dissension that it is and rendering that externality explicit as an underdetermination of living process. This negation is accomplished in the *assimilation* of an object by the organism, which the latter must find suitable to it as to the living process that it is.¹⁰⁹ This is its receptivity now appearing in light of an externality that is not its own body. The organism transforms something external and objective, which implicitly has no self-subsistence independently of life, into something subsistent by transforming it into its own life process. In plants this can be seen in the photosynthesis that assimilates the sun’s energy; in animals we see the assimilation of nutrients into their

digestive systems through feeding. Assimilation reveals a further development of reproduction: in assimilation the semblance of an other confronting the living being is canceled, and thereby the organism finds itself "again" or reproduces itself. In this way the living being is not lost in externality but reproduces itself through it, at the cellular level quite literally.

There is a further implication here: *in their externality* the organism's articulations do interact with the externality of the environment at the mechanico-chemical level. As living, the mechanico-chemical *interaction* of its body with the world belongs to it as a necessary part of its own determinacy through which it lives, whether this interaction be the exercise of the organism's power over an external thing as in assimilation, or the resurgence and reassertion of mechanico-chemical processes over it as in pain.

In their externality, living articulations are separable and thereby something dead.¹¹⁰ In their externality, living articulations come into mutually external conflict with mechanical forces. This conflict is the beginning of the dissolution of the organism, viz. the beginning of its death. But the externality present here *and therefore also this conflict* belong to life itself as necessary features of the self-determining process that life is. This means that the very externality through which the organism lives is equally that through which it dies. Death is not something introduced *into* life insofar as externality is already a subordinate determinacy of life. Death cannot enter the living being from the outside insofar as the *outside per se already belongs to the very life of living process*.¹¹¹

Death is not merely an eventuality that befalls the organism at some point, as if it were an external contingency that life might otherwise do without. To be sure, it is external, but as such it is the organism's *own* externality. This is why death cannot be something *other* than life; it is an inherent part of living process, marking life as intrinsically finite. Thus death intrinsically belongs to the very self-determination of life, and that is why the elementary powers of the mechanico-chemical sphere are "continually on the point of beginning their process in the organic body, and life is the constant struggle against them."¹¹² Life has to continually reassert itself in reproduction, standing out against its dissolution which as the organism's own externality is the finitude and death inscribed in the very life of living process.

17. *The Genus*

In reproduction through assimilation, external objectivity is converted into living process and the latter is thereby objectified. This objectivity is not merely canceled but is given subsistence in living process. Life then gains the identity of itself with its previously merely presupposed indifferent externality. However, an identity persisting in otherness is precisely *universality* according to Hegel's basic definition of it,¹¹³ and so if life here maintains its identity in and through otherness, the identity reproduced is not just the *particular* living being but life in its *universality*. However, the identity at issue here is precisely that of a living *individual* fully objectified. Thus the universality that is now produced is a universality of living *individuals* above and beyond the previous self-enclosed universality of life in its organic articulations, and these living individuals are in turn particularized against *other* living beings. In other words, universality now shows itself as the determinacy of life persisting in and through *different* living organisms.¹¹⁴

Since in reproduction the organism unifies itself with externality and thereby gives itself objectivity, this universality cannot be the abstraction of some disembodied and purely formal generality that hovers over its instances. So also, since the living being dies, if the universality were a purely formal generality it would soon be one with no instances, and hence no universality at all. Thus the objectivity of living process cannot just be the mere reproduction of the same particular living being nor the disappearance of objectivity into formal generality. Rather, it can only be the reproduction of *another* living being in which the living determinacy of the first objectifies itself and maintains its identity. In this way life gains the universality of the *genus* (*Gattung*): in producing another, life reproduces itself. This other is likewise determined in the same manner. Only at this point can we see other living beings, already logically required by the concept of life, as belonging to the process of reproduction whereby life is universal. In this way the structure of a presupposed externality now persists in the other organisms in which life reproduces itself as genus. Each organism is particular with respect to other organisms but universal with respect to the genus.

Now although *Gattung* literally means "genus," Hegel indicates by this word a universality that includes particularity within it as its specific determinacy. The development of the genus is the reproduction of other particular living individuals where the identity of the begetter is preserved in the begotten, and hence is an identity that preserves itself in becoming other

or a universality. This means that the universality of the genus cannot be the mere abstraction of the idea of life in general. We already had that with the collapse of external purposiveness. Rather, this universal is an identity preserved across many particular individuals, and hence in biological terms it more closely corresponds to the concept of *species* than that of *genus*.

The contradiction manifest in the genus, and which will pave the way for the transition beyond life to knowing (*Erkennen*), is that the reproduction of *universality* only ends again in another *particular* individual being, which in turn goes through the same process.¹¹⁵ Indeed, it may well have been this very ontological determinacy of life that misled the great French biologist Buffon at one point to claim that there “are really only individuals in nature” and to regard the concept of the genus as imaginary.¹¹⁶ Against this we can assert that genera do not merely belong to an external reflection or imagination, but nonetheless each living being reproduces itself as genus in another and each dies in turn, and thereby life never becomes explicit as universal genus. The living individual is itself *implicitly* the genus, but it is not so *explicitly*. Explicitly it is a particular organism confronting another one, and hence empirical observation may well only notice this explicit level of determinacy. The truth of the particular organism lies in its genus, but the *particular organism* can never really arrive at its truth. It can only reproduce *another* particular organism.

Particular organisms are thus subsumed under the genus, and particularity and universality are at odds with each other. At the empirical level we might see this ontological structure reflected most easily in those organisms that, by producing an overabundance of offspring, make it possible for some to survive predation and thereby perpetuate the species. Within its universality, which is its own truth, the living individual does not count for itself as such. What matters is the preservation of the species (or “genus” in Hegel’s terminology).¹¹⁷

18. Summary of the Category of Life in the Logic

By thinking through the implicit ontological determinacies in the category of life, we see that this category cannot be adequately conceived in terms of purely mechanical processes and that it is ontologically inappropriate to treat it as if it were a mere mechanism. Likewise, to treat life as a mere means to an end that is external to it is to misconceive it at an ontological level in terms of external purposiveness. Further development of the category of life

shows that the living organism is receptive to externality in such a way as to make that externality its own, which means initially a dissolution of external plurality within the unity of the organism. This structure is then further specified as an externality established outside the organism through which the organism maintains itself, which is consistent with the contemporary biological understanding of the relations between organisms and their environments and can provide an independently derived ontological framework for the latter. This self-maintaining of life is then shown to imply the reproduction of other organisms as the genus which, finally, is manifest as the “truth” of life or what the category of life shows itself to be when all of the determinacies implied in it are rendered fully explicit. At this point we can return to the implications for environmental ethics broached above and draw some further conclusions regarding environmental philosophy in general.

19. Implications for Environmental Ethics Revisited

As suggested above, if the implication of practice in theory or of the way we behave toward things in our ways of categorizing those things allows us to draw a general rule that thinking a concept’s determinacy explicitly is to act in accordance with that determinacy, then conceiving the determinacy of life explicitly will necessarily also entail a human orientation toward nonhuman living beings that is appropriate to them as living, that is, an orientation that does not act on living beings as on mere mechanisms. Gaining an ontological understanding of life might then generate a kind of ethic in which treating life as life becomes a matter of course, a *Sittlichkeit* that is to be minimally expected of rational human beings. As also suggested above, if freedom is rational self-determination, this means that our own freedom requires that we conceive of life appropriately and that our ethical habit and activity reflect this conception.

But it might be objected that if it is fundamentally irrational to act on living beings as on mechanical objects, then given the fact that we cannot eat rocks it is fundamentally “irrational” to eat anything at all. Does not this analysis lead to such austerity that even vegetarianism is no longer an option? After all, plants are just as alive as animals, and to bring their living articulations into mutually external conflict with the mechanico-chemical sphere by eating them is to act on life as on mechanism just as much as it is to consume animals. Does “freedom” then mean starvation?

First of all, what this objection overlooks is that according to Hegel's account the *truth* of life, life in its most developed degree of explicit determinacy, lies not in the living *individual* but in its *species*, that is, in its universality, *Gattung*. This is what is at issue in normative considerations with respect to life, not individual living beings regarded in abstraction. In nonhuman life the individual is subordinate to and even sacrificed for the species. However, even if we agree that conceiving of life properly means that we do not act on living things as on mechanical objects, how can we act or not act on a species as on a mechanical object? What could that possibly mean?

Each individual living being finds its truth in the species. To conceive of life under the category of mechanism is to refuse or fail to think the category of life in its truth. Therefore to act on life as on mechanism is to deny its truth in thought and deed. The most blatant way of denying the truth of life, then, would be to destroy its truth, that is, to destroy its universality, that is, to destroy its species. This is to treat life as mechanism in the most oblivious way possible.

Hence, the primary normative considerations with respect to nonhuman life are directed not at individuals but at the preservation of species, viz. at the universality of living beings. For this reason it is not only acceptable but obligatory that, for instance, should there be an overpopulation of deer in a given ecosystem that threatens the existence of other species, the deer population should be thinned out, either by hunting or through restoration of that ecosystem's natural predators. Animal "rights" cannot be sustained precisely because the truth of the individual organism lies in its universality in such a way that the individual is sacrificed for its universality.

What is indicated here is that insofar as I am bound to follow the necessity of thought and am thereby bound to the practice consistent with it, or better, insofar as I am bound to the practice that is the self-determining structure of thought, I am bound to avoid acting upon living organisms in the truth of their universality as upon mechanical objects. That is, I am obligated to avoid the destruction of species in my actions. Hegel thus gives us an ontological justification for the preservation of species, one that neither entails extending a neo-Enlightenment notion of rights to animals nor imposing "value" upon an ecosystem, whether that imposition of value be by human extension or by an avowal of an intrinsic value whose necessity is not shown. In fact, it is not here a question of *value* at all. Rather, it is a question of rightly conceiving the ontological structure that pertains to

living process and of our behavior towards the latter in an appropriate way, a behavior we cannot disavow without denying the necessity of thought that has revealed that structure.

Two further observations are implied by Hegel's account of life:

1. Insofar as *diversity* is a determination of life that is prior to the determination of the species (*Gattung*), it is an underdetermination with respect to the latter. Chemical determinations, for instance, structure living beings at a certain level without making it necessary that we conceive of those beings solely in chemical terms. To do so would be to fail to think them as living. But insofar as an ethical habit with respect to life requires that I treat them *as life* and therefore not act on them as on merely chemical objects, it requires that I do not interfere with the chemical processes that are necessary (albeit not sufficient) conditions of living beings in such a way as to destroy them.

This same point can once again be readily seen with respect to humans. We are not free to interfere with the chemical processes of another person's body as we please, since it is not just a matter of dealing with something that is merely chemical. Now just as chemical process is a necessary moment in what lives, so also is diversity. Insofar as this diversity has its place at a level of abstraction prior to the appearance of the genus, it does not merely refer to diverse individuals of the same species but to *diverse life forms per se*. This diversity is also ontologically constitutive of life, and so any normative consideration with respect to life requires that, just as I should refrain from destructively interfering in the mechanico-chemical processes that structure life, I should likewise refrain from destructive interference in the *diversity* that is also a necessary moment of life. Hegel's account of life thus provides normative support for a requirement to protect and preserve biological diversity. Now to claim that it supports actually enhancing or restoring biological diversity might be too strong a claim to make, but Hegelian ontology is certainly consistent with this and would at least show such human projects to be eminently rational, as opposed to persisting in continual habitat destruction through "development" without bothering to understand life at all.

2. Insofar as the ecosystem, the environment inhabited by life, is not itself merely indifferent externality either but is in fact an externality established by life in order to live, it is life's *own* externality. An ecosystem or "biosphere" is not merely immediate externality but is the externality of life and is constituted as such by living process. Insofar as the externality that comprises an ecosystem belongs to its resident living organisms as *their*

own externality through which they live at all, that externality cannot be destroyed without destroying the living beings whose externality it is. This in turn means that the ecosystem itself must also come under the normative framework with respect to nonhuman life that I am proposing here. Thus, preservation of biological diversity and habitat go hand in hand as necessary aspects of environmental ethics.

A crucial feature of this normative framework is that it neither preempts rights and duties appropriate to the human sphere, nor is it merely a supplement added to the latter. Rather than being added to a presupposed discourse of rights, Hegel's account suggests that freedom is already implicit in nature as self-determination, and this self-determination rendered fully explicit is human freedom with its attendant structures (rights, moral duties, institutions, etc.). In this way a *logos* implicit in nature is made explicit in and as human thought. Thus human rights and the ecosystem/species preservation ethic defended here are not merely *juxtaposed*. Rather, in Hegel's system the claim to rights as a structure of freedom is shown to systematically *follow from* the logical categories developed earlier, categories which necessarily include that of life.

In other words, just as mechanism is an *underdetermination* of life such that "mechanisms" can always be correctly ascribed to living organisms without fully spelling out what it means to be a living being, so also the *ethic* appropriate to species and their ecosystems is an underdetermination with respect to the human sphere. It is appropriate to regard individual living beings as subordinate to their universality since the category of life is not capable of bringing together the individual and the universal, leaving particularity and universality at odds with each other. This lack of unity can be seen in the sacrifice of particular individuals for the perpetuation of the species. To sanction such a thing in the human sphere, however, would be unconscionable because it is inappropriate to understand human beings simply in terms of the category of life: in the human sphere—or so Hegel's argument indicates, the details of which lie outside the scope of this paper—the individual is united with the universal in a way that does not and cannot occur at the level of mere life alone. The concept of "right" is just such a unity: a right is a universal objectification of freedom borne by the individual who claims it. Hence human beings can have rights but nonhuman living beings cannot.

20. Hegelian Solutions to the Problems of Other Theories

At this point let us revisit the theories discussed earlier and make explicit how the Hegelian approach defended here would address some of the problems in them. Regarding the animal rights position, we can now see that it is precisely a deficiency in the very ontological structure of life itself that makes the ascription of such “rights” to animals untenable. This deficiency lies in the incapacity of the category of life to unify the individual with the universal, leaving the former prey to being sacrificed for the sake of the latter. This deficiency shows up in nature when individual living organisms are sacrificed for the perpetuation of the species, rendering the determinacy of life inescapably “collectivist.” Because Hegel offers no justification for animal rights, his thought may be unsatisfactory to those who adhere to such a view. Due to the immanent logic implied by the category of life itself, the Hegelian position does not valorize individual animals over their collective species-being. Nonetheless, it can articulate a genuinely *environmental* ethic that provides a strong *prima facie* reason for avoiding the destruction of species and the ecosystems they inhabit.

Turning to the holistic theories, Hegel’s account can provide the ontological underpinnings for an attitude of respect for the living systems of nature, such as the ones Taylor and Deep Ecologists advocate, *without* relying upon such an attitude for its normative basis. By attending only to those determinacies found to be strictly implied in the category of life as it is derived in the *Logic*, the Hegelian position defended here avoids the mere avowal of intrinsic value.

As previously mentioned, Plumwood’s ecofeminism is consonant with the Hegelian account inasmuch as it seeks to preserve both difference as well as unity, arguing for their interconnectedness within an articulate whole rather than blurring distinctions as some of the holistic theories might be said to do. The problem, however, is one of how that articulate whole is derived and demonstrated. The direction Hegel indicates is one that, rather than challenging a dualistic opposition between nature and reason with an externally introduced supplementary perspective, would instead show that the categories whereby such an opposition is maintained are in themselves unsustainable and are so in such a way that the opposition is overcome. Rendering the determinacy of the category of life explicit and drawing out its implied logical development leads us to something very much like the kind of alternative account Plumwood seeks, namely an account that preserves

the specificity of human-centered ethics and at the same time holistically conceives life and ecosystems along with a normative framework appropriate to them without mystification. Hegel's dialectical method, however, has the advantage of showing the dualistic assumption Plumwood rightly criticizes to be unsustainable *in its own terms*—or, more in keeping with the argument of this paper, of showing that such unsustainability is already built into the very mechanistic determinacy that is often opposed to reason, spirit, life, etc. This strikes me as a more powerful critique than merely opposing an alternative position to the object of criticism, and it does not risk jettisoning rationality *per se* as does Plumwood's position.

Hegel's account of life provides the normative framework for a genuinely *environmental* ethic that is thought at a level of abstraction prior to any determination about the specifically human sphere, and hence prior to any determination about history, such as the history of various forms of oppression that Warren wishes to make central to any and every environmental ethics. Whereas I have no wish to minimize the importance of such sociological considerations in their own right, I do want to emphasize the fact that Hegel's account does not commit us to any presuppositions about anything external to the category of life considered in itself, and that it is only by *preventing* such presuppositions from guiding the account in advance that we are able to articulate what life is in its ontological structure in the first place. Against Warren, through Hegel, one can justifiably assert that the historical determinacies of gender *do not* add anything constitutive to the category of life or to the ethic that is implied by that category. Any insistence upon gender at the ontological level pertaining to the category of life as it is derived in the logical treatment would impose determinacies not warranted by the category under consideration, and thereby would merely fail to provide an adequate ontological account by introducing external reflections and empirical givens.¹¹⁸

Whereas Callicott embraces the assumption, taken from David Hume and Adam Smith, that "ethics rest upon feelings or 'sentiments,'" ¹¹⁹ the Hegelian approach would not require us to ground normativity in feeling, although it could certainly accommodate the association of feelings with rationally grounded conceptions such as the category of life and all it entails and thereby also with an ethical habituation (*Sittlichkeit*) appropriate to these conceptions. In contrast to Callicott's subjectivization of value, if we draw on Hegel we can assert that the normative framework relevant to species and their ecosystems is not merely the projection of a subject but is implied in the

ontological structure of life itself, a structure that cannot be disavowed without simultaneously disavowing one's own humanity as rational and free. Nothing prevents this ontological understanding from in turn becoming associated with the very kind of holistic sentiments Callicott wishes to see cultivated, sentiments which may even be necessary for any environmental ethic to have sustainable *effects*. They would not, however, provide its normative *basis*.

On the other hand, if the position defended in this paper is correct then we can assert that an environmental ethic is not merely supplementary to a human centered ethics which for its own part is simply different from it, nor is it a later accretion, as Callicott maintains. They are not merely juxtaposed, nor do we "choose" to valorize one over the other based upon externally introduced considerations. Rather, the normative implications inherent in the structure of species and their ecosystems is actually "earlier," ontologically speaking, than the structure of human freedom and the rights that belong to it. At the same time, these normative implications are underdeterminations with respect to the human sphere and so the latter is not merely subsumed under it. The human relation to natural life systems is neither one of subjection nor domination. Both of the latter conceptions assume an essential externality governing the relation between the parties: either the specific sphere of human rights and duties is external to an environmental ethic that is understood to constitute the only legitimate ground for ethics, and so humanity is subject to the same ethic, or there are no legitimate grounds for an environmental ethic at all, and so people are free to dominate natural systems as a mere means external to the human purposes to which they are subjected. Callicott's attempt to wend his way between these extremes leaves the normative basis of the choice unclear. Hegel, however, can show that the normativity specific to the inter-human sphere is a *further development* of the determinacies appropriate to environmental ethics and in such a way that it is irreducible to those determinacies. This irreducibility in turn serves to safeguard human-centered ethics from the collectivist character of environmental ethics in a way that asserting a merely supplementary relation does not.

In this way also the Hegelian argument can I think fully address and allay the concerns raised by Ramachandra Guha regarding Deep Ecology's aversion to "anthropocentrism."¹²⁰ Hegel's system is admittedly anthropocentric, but rather than compromising our normative relations to nature, it actually establishes them insofar as it is our own rational freedom that requires us to appropriately conceive of both life *per se* as well as the human sphere, each

with its own respective attendant normative implications, and in such a way that inter-human ethics is no more reducible to life ethics than the latter is reducible to mere mechanisms. At the same time, the human sphere maintains its connection to nature and to life insofar as it is a further development of them. Both the dualism that places human existence outside nature as well as the mystical and potentially misanthropic monism that blurs everything together are avoided.

This leads us to those aforementioned attempts to either unapologetically assert such a dualism or to defend a variant of monism on the human side. We might characterize these alternatives as “dualist realism” versus “monistic constructivism.” Hegel’s approach avoids this relativism/idealism quandary while simultaneously avoiding the situation, rightly criticized by Vogel, in which “particular socially mediated conceptions get projected onto a supposedly pre-societal world and then illegitimately claimed to have been grounded there,”¹²¹ but without having to rest content with Vogel’s normatively unclear appeals to self-consciousness. By articulating an ethic drawn from Hegel’s account of life in the *Science of Logic*, one can show that the collapse of any hard dualism between the natural and the artificial entails neither relativism nor a Kantian ethic relegating nonhuman life to a mere instrumental value. Rather, the Hegelian ecosystem ethic defended here implies a kind of ontological respect that speaks directly against such conclusions. But on the other hand, this will not mean that the natural and human spheres are simply identical.

Hegel shows us that Vogel’s renunciation of the philosophical project of articulating what life and nature are in themselves is not only both premature and unnecessary but counterproductive as well insofar as we would thereby overlook the normative implications therein. For Hegel nature is not a lost immediacy, nor is it impossible to articulate a philosophical conception of what nature is in itself. But whereas Vogel recommends a program of “directly asserting the political and social character of environmental debates rather than pretending that the views expressed within them can be justified by appeal to what nature ‘in itself’ is or requires,”¹²² Hegel shows us a way of “directly asserting the political and social character of environmental debates” without having to give up on understanding what nature is in itself, or more specifically with respect to the topic of this paper, without having to give up on understanding what life is in itself. Indeed, it is precisely this very understanding that implies an ethic regarding living systems and their

ecosystems, an ethic directly bound up with the socio-political sphere of human activity.

With Hegel we can rejoin Richard Lewontin's rejection of misguided attempts to "save" a univocal environment external to humanity and fully recognize our own connection to nature *as well as* the specificity of human normativity.¹²³ This connection is also clearly recognized by Vogel, but while I can certainly agree with him when he claims that "[p]ractices are real, not ideal, and not all practices are equal,"¹²⁴ I add the converse (Hegelian) point that "ideal" categories inform our practices. Both Vogel's and Lewontin's critiques of the ontological "nature/artifice" dualism depend on the one hand upon empirical claims, and on the other hand upon a desire to remain consonant with the goals of environmentalism in understanding humanity within the context of nature rather than as agents acting externally upon it. Thus, with respect to the latter concern Vogel shows that a dualism like that assumed by Katz and Elliott actually undermines the objectives of the very environmentalists who subscribe to it. Although this is a powerful argument and I have no wish to downplay its importance, it nonetheless does not clarify the ontological issue.¹²⁵

Hegel's argument is that human beings are ontologically distinct from both animals and ecosystems, but this distinction is not a dualism any more than there is a dualism between life and mechanism. In other words, if by "dualism" we refer to two poles of an opposition that are each independently given, then this is not Hegel's conception. At a certain level of abstraction, a living organism is a mechanism, but this level of abstraction is an underdetermination that fails to articulate life in its own ontological specificity. Similarly, a human being is an animal, but this, too, is an underdetermination. Vogel worries that if "there are at least some significant *ontological* differences between humans and other entities," these differences might "justify the positing of significant moral differences between them as well."¹²⁶ But this worry is misplaced precisely because an entirely different conclusion follows. Namely, human beings *are* ontologically distinct from other living organisms insofar as it is only in humanity that freedom becomes explicit and is objectified in the political sphere as a concrete universal. However, it is this very rational structure that necessarily also entails: 1) explicit recognition of the logic implied in the categories we employ, and hence 2) that the category of life is radically irreducible to that of mechanism, and hence also 3) that we act with respect to life in a way that is appropriate to what it is, viz. as life

and not as a set of mechanical processes that is indifferent to what happens to it. The ontological differences between human beings and nonhuman life do indeed correspond to significant moral differences between them but, while safeguarding the specific normativity belonging to the human sphere, these differences not only do not threaten environmental ethics but in fact establish its ontological legitimacy.

Vogel writes, "An environmental philosophy without nature would thus find its normative foundation in an appeal to *self-knowledge* and *self-recognition*, not in an impossible return to a nature beyond or before human practice."¹²⁷ Hegel, however, shows us that self-knowledge and nature are not only *not* mutually exclusive, but that *the one entails the other*. Indeed, unlike Vogel, Hegel can at least begin to show us precisely what such knowledge looks like. With the appeal to self-consciousness, what Vogel needs is something like Hegel's (onto)logic of development that both avoids appealing to metaphysical nostalgia and points toward a normative framework without either landing us in postmodern relativism or in social constructivist idealism.¹²⁸

Although not yet gaining quite the degree of notoriety within environmental studies as the previous theories, Alison Stone's recently published *Petrified Intelligence: Nature in Hegel's Philosophy* is significant for the purposes of this paper due to its attempt to develop a specifically Hegelian ethic toward nature. Due to the complexity of her reading of Hegel I have put off attending to it until now so that my own interpretation could first be presented, against which I will now situate Stone's. Attention to her account will in turn enable further clarification of some of the concepts presented earlier.

Instead of following the more well-worn avenues of inquiry that would relate Hegel's philosophy of nature to either the empirical sciences or to Kantian philosophy, Stone instead presents a comprehensive analysis of the place of Hegel's philosophy of nature within the overall system as well as a defense of what she takes to be the ethical implications in it for environmentalism.¹²⁹ She proposes a "re-enchantment" of nature by first identifying the "good" as Hegel conceives it with "will" or the activity of practical reason and then, insofar as nature is the self-externality of the idea and the idea culminates in the rational will that wills the good, reading this notion of reason with its concomitant "goodness" into the entirety of nature.¹³⁰ Inasmuch as nature is implicitly reason, it is also implicitly good, and this allows her to conclude that Hegel understands nature to have intrinsic value apart from any subsequent relations that may occur with human beings. The externality

of natural phenomena, from the abstract elementals of time and space up to organic life, all are intrinsically good insofar as they are implicitly reason. Nature is hierarchically valued however in that intrinsic value is greater as natural beings manifest the reason in them more explicitly. Thus, animals have greater intrinsic value than plants, and humans than animals, etc., but there is no hard and fast ontological boundary separating humanity from the rest of nature. “This extension of (degrees of) intrinsic goodness to all natural forms is only possible for Hegel,” she writes, “because he starts from the metaphysical view that all these forms act from requirements of rational necessity.” This purportedly “baroque metaphysical view” attributed to Hegel is defended as a “re-enchantment” of nature to counterbalance what she claims is the prevailing metaphysical conception of nature in the empirical sciences, viz. as value-neutral “bare things.”¹³¹

My own approach however avoids the necessity of reading intrinsic value into all levels of nature. It does so by examining the way in which the category of mechanism is transformed through its own implicit determinacy of indifferent externality into an externality that belongs to life and as such is brought under the rational requirement to conceive of life appropriately and to thereby also act in accordance with this conception. This conception is articulated at a level prior to any hierarchical ordering of nature, and thus does not differentiate, say, between plant and animal life just as it does not yet differentiate between animal and human life. Two qualifying remarks are in order.

1) First of all, the account I draw from the *Logic* does differentiate between mechanism as an abstract level of indifferent externality and the purposeful organic life that makes of this indifferent externality its own living process, not by externally imposing purposes upon it but rather by allowing it to show itself to *be* the very externality of living process through which the latter lives. This externality constitutes both that of the bodily organism as well as that of the ecosystem of which the organism is a part. This aspect of externality is a crucial development insofar as it overcomes the external purposiveness of finite teleology and only thereby becomes a living organism.

It seems, however, that Stone may overlook this development when she writes that “the rationally necessary purpose on which the will acts is the purpose of transforming objectivity so that it manifests the agent as the locus of rationality.”¹³² In Stone’s conception, the “objectivity” that is transformed

is not *itself* manifest as this locus and so it still falls *outside* the purpose that acts upon it, and thereby *remains an immediate externality*. Indeed, this assumption is reiterated more explicitly when she writes:

The purpose which agents espouse is essentially unrealizable. They require a spontaneously occurring state of affairs, so necessarily cannot realize this purpose through action: their very attempt to realize this purpose means that whatever they bring about must differ in content from the purpose.¹³³

But this sort of formal purposive activity that remains something different from its content looks more like the “finite” or “external” purposiveness that is shown in the *Logic* to be unsustainable, unsustainable because the immediate externality it presupposes turns out to be life's *own* externality through which it lives. She takes the “intrinsically worthless externality” of the *finite purposiveness* that reappears in the subjective shape of the good to be definitive, maintaining a content outside the form of purposive activity itself.¹³⁴ But the *Logic* had already shown that *this very intrinsic nullity* of external objectivity is precisely what makes it suitable for living process insofar as, being a nullity, it cannot constitute something immediately self-subsistent that stands in itself outside living process, and because of this it does not present an obstacle to being brought into that process and made part of it (e.g. through assimilation). Thus if nature is to be valued in itself, *this can only come about through life*.

Granted, this leaves lifeless landscapes outside the normative framework I am defending here. But are environmentalists ever really concerned about lifeless landscapes? Indeed, is there any such thing on earth?¹³⁵ Lewontin and others suggest not. There is no unitary “environment” *per se* but rather a multiplicity of ecosystems, each of which is at least co-constituted by the living organisms that inhabit it. The Hegelian twist on this will be to show that the determinacy of mechanistic processes is indifferent externality, and each ecosystem is constituted by an indifferent externality which through its own intrinsic nullity shows itself to be the self-relation of the living processes that define it. As such living externality, it is not mere mechanism, and hence cannot rationally be treated as such. *Nature is thus redeemed by life, not by an intrinsic value metaphysically imputed to it*. Thus, Stone's inclusion of theories of life among those that do not and cannot “extend intrinsic value as far as natural forms that are neither organic nor share the self-interested structure of organic life: forms such as rivers, mountains, soils, airs, or seas” is pre-

mature.¹³⁶ “Rivers, mountains, soils, airs, or seas” are precisely the objective externality of the organisms that inhabit them.

To be sure, in her gloss on the good as it appears in the *Logic Stone* does recognize that this separation of the form of purpose from its content is overcome in what she calls the “providentialist outlook” that sees the world as “pervaded by practical rationality or the will” insofar as its purposive activity is “realizable.” But this realization consists in the fact that purposive activity is “complemented by a convergent dimension of willing activity within the external world.”¹³⁷ In other words (if I am reading her correctly), it is only the prior extension of willing activity to the entire natural world that enables it to be seen as good, and this then forms a goodness that lies outside the purposive activity of agents that act within the world insofar as it was “there” before their activity and, while it may “complement” that activity, is not shown to be *one and the same thing as* that activity.

Indeed, it would seem that it could only be something like precisely such a residual immediate externality left intact as finite purposiveness that could then inform Stone’s subsequent conception of nature in such a way as to allow her to maintain a “matter” or “material” that remains outside of thought, allowing her in the conclusion to claim that

Hegel’s rationalist metaphysics is inadequate ethically because it revalues nature by extending to it characteristics—conceptuality and rationality—which have traditionally been regarded as unique to humanity. Rather than revaluing nature qua material, Hegel revalues nature by redescribing it as containing conceptuality in addition to matter.¹³⁸

The notion of “addition” here might well indicate the fixed representations of the understanding which remain at the level of finite purposiveness, because it remains at the mechanistic level of indifferent externality, which informs the very conception of “bare things” Stone wishes to avoid, and so can only frame rationality as something “added” to a materiality immediately present outside self-determining process. And unless she intended to elaborate a position only to abruptly jettison it at the end, this conclusion is strangely at odds with her claim that nature is intrinsically good because it is intrinsically rational, as if the rational character that guided her entire re-enchantment of nature as intrinsically good suddenly becomes an extrinsic add-on.

2) Secondly, the human sphere is brought to bear insofar as we are rational beings committed to the self-determining reason that we are, and hence also to the conceptions articulated by that self-determining reason, of which the *Logic* purports to be the record. Any possible hierarchy of values along

the lines Stone suggests¹³⁹ lies outside the scope of the present argument. But however any such hierarchical valuing may be set up, it cannot ignore the logical determinacies outlined in the *Logic*, and so cannot treat life as something equivalent to the mere external indifference of mechanism. This leads us to a potentially troubling remark Hegel makes in the *Philosophy of Right*. In the context of property he writes, "A person has as his substantive end the right of putting his will into any and every thing and thereby making it his, *because it has no such end in itself*."¹⁴⁰ Again, he remarks that everyone has the right "to destroy the thing and transform it into his own." Why? "For the thing, as externality, has no end in itself; it is not infinite self-relation but something external to itself."¹⁴¹ Because the thing is not its own end it is susceptible to such treatment, and is subsumed under the right of personhood.

The *Logic* shows life to be precisely such an infinite self-relation that is its own end, so to treat it as "the thing" is treated here is to be oblivious to its ontological character as a living being. However, Hegel seems to forget this when he goes on to say, "A living thing too (an animal) is external to itself in this way and is so far itself a thing."¹⁴² Had Hegel here been more attentive to the ontological development he had himself articulated in the *Logic*, perhaps he would have remembered that the living being is precisely *not* external to itself in this way, and that if the *reason why* the thing can be thoroughly dominated and destroyed is *because* in its self-externality it is not its own end and so has nothing in itself to resist or interrupt external force or violence, then life does *not* readily offer itself to such domination. Indeed, life *cannot* come under such domination and *still be treated as life*. When Hegel forgets this he forgets what life is, and so his statement here is not really a statement about life at all.¹⁴³

Stone however claims that Hegel follows modernity in uncritically privileging rationality over materiality, and thereby winds up with a duty that recognizes no obligation toward the nonhuman and in fact is obligated to transform nature into property. By jettisoning this privilege of reason over matter as anthropocentric and replacing it with a more dubious grounding in the givenness of sensibility requiring a phenomenological rather than an ontological or rational approach, she hopes to avoid this anthropocentrism and thereby also its concomitant duty to transform nature into property.¹⁴⁴

But this approach still posits in advance of the entire system a quasi-Kantian sensibility/understanding polarity as determinative. For Hegel this could only be an underived determinacy and therefore an unjustified presup-

position. Hegel does not begin the system by assuming a privilege of reason over matter, but by suspending all such presuppositions in order to think the sheer indeterminacy of being *per se*, long before the more developed determinations of matter and reason come into play. But by subordinating the *Logic* to the *Philosophy of Nature*,¹⁴⁵ Stone may not attend to the full implications of Hegel's ontology and consequently seems to end up grounding the entire system on the givenness of presupposed determinacies (like conceptuality as opposed to matter), which amounts to seriously misconstruing the entire Hegelian project. In my view this is a needless complexity that can be avoided simply by remaining faithful to the Hegelian text itself, which, it must be said, Hegel himself did not always do (as when he casually remarks in the *Philosophy of Right* that animals can be treated as mere self-external things).

Stone points out that none of the duties derived in the *Philosophy of Right* “ever impinge upon individuals’ foundational duty to transform natural entities,” concluding that “Hegel’s developmental account of mind, as articulated in the *Philosophy of Mind* and the *Philosophy of Right*, stipulates that it is neither rational nor good for individuals to respect natural entities in virtue of their intrinsic goodness.”¹⁴⁶ Although any duty associated with freedom at the level of property right is not and cannot be “foundational” as Stone asserts insofar as the dialectic of freedom does not follow a foundational logic, she is right to point out that this duty “is not, and never becomes, limited or qualified by any countervailing duties of respect.”¹⁴⁷ That is, *from that point forward* in Hegel’s system the immanent logic of freedom does not return to nature in order to propose duties that are specifically appropriate to it. However, as rational beings we are committed to following the necessity of reason, which is what makes freedom and its dialectic in the *Philosophy of Right* explicit in the first place, and it is this commitment that leads us to derive the categories in the *Logic*, which in turn leads us to the specific ontological determinacy of life. The *duty* is to remain faithful to our own rational character, and thereby it does indeed remain “anthropocentric” in the qualified Hegelian sense of an *anthropos* which is neither atomistically conceived nor opposed to nature in a presupposed reason/matter dualism. However, this rational character necessarily entails thinking life appropriately and acting in accordance with it.

Therefore, even though no specific duty to natural beings is proposed in the *Philosophy of Right*, the ontological account of life provided earlier in the *Logic* does imply such duty to living beings and their ecosystems as a neces-

sary component of a self-determining freedom that follows its own rational character. Hence careful attention to the determinacies spelled out in the *Logic* would indeed mitigate against any subsequently derived "duty" to transform nature into property and subject nature to the caprice still manifest in the freedom that remains at the abstract level of property right.

21. Conclusion

In this concluding section I think it will be useful to go through a helpful list of philosophical problems enumerated by Elliott Sober which, according to him, any account of environmental ethics must face and which, I contend, the Hegelian approach suggested here can adequately address.¹⁴⁸ First of all, Sober asserts that the main conceptual problem is one of assigning a non-instrumental value to wholes, specifically, to species and to ecosystems. The problem is one of holism insofar as the preservation of species does not reduce to the value of preserving individual organisms. This precludes not only the hedonist assumption but also renders problematic any appeal to "preference utilitarianism," which must not only attribute interests and/or needs to natural objects and ecosystems, but must then specify which needs are the ethically relevant ones and how to decide between them when they conflict.¹⁴⁹ The Hegelian account need not appeal to any version of utilitarianism. Nor need it rely upon an appeal to ignorance by warning that an endangered species may house some currently unknown benefit to humanity, which would also again relegate that species to an external means-end relationship and thereby treat it as mere indifferent externality. Neither would it require an appeal to the slippery slope argument by claiming that the extinction of one species will lead to that of another and in turn another, etc.

Insofar as for Hegel the human realm is a further development of nature rather than a separate sphere opposed to it, a Hegelian approach has no need to first set up an opposition between the natural and the artificial and then value one over the other. Thus, the "natural" in Hegel is not a normative concept, nor need it be, and so the "artificial" is not devalued relative to it. In fact according to the argument presented here, drawn as it is from the *Logic*, the operative concept is not "nature" *per se* but *life*. Since what is at stake is the universality (*Gattung*) of life and the ecosystem which is the structure of its own externality, the Hegelian account does not depend upon a distinction between wild and domestic living beings nor upon a dualism between nature or matter on the one hand and reason on the other.

Neither would the Hegelian account be saddled with having to demonstrate why ecosystem stability and diversity *per se* are the only or the relevant intrinsic values since, insofar as these constitute the externality of living beings, they come under the *Sittlichkeit* that accords with the rationally determined ontological structure of life. The account of an ecosystem as the externality that belongs to this structure likewise circumvents much if not all of the difficulty surrounding what Sober calls the “problem of demarcation,” viz. the problem of how to mark off the boundary between which wholes have value and which ones do not.¹⁵⁰ An environmental ethic must differentiate between wholes like ecosystems and species, on the one hand, and other kinds of wholes like highway systems and electrical grids, on the other hand, and it must provide justification for according moral value to one and not the other. Sober rightly points out the inadequacies involved in appealing to needs or interests here. But it would also be insufficient to appeal to the fact that a highway system is “artificially” constructed as opposed to the “natural” generation of ecosystems. One reason is due to the previously mentioned problematic contrast between the “artificial” and the “natural” along with a valorization of the latter. In addition to this consideration, Sober also points to the same biological reality we observed earlier with Lewontin:

But once we realize that organisms construct environments in nature, this contrast begins to cloud. Organisms do not passively reside in an environment whose properties are independently determined. Organisms transform their environments by physically interacting with them. An ant-hill is an artifact just as a highway is.¹⁵¹

Given Hegel’s account of life as a process that constitutes its own environment, *rather than posing a problem* this observation *actually provides support for the very kind of demarcation we need to make here*: namely, the distinction between 1) that externality which is constituted by and for life as an externality through which it lives, and 2) that externality which is not constituted by and for life as an externality through which it lives, viz. lifeless mechanism. The former comes under the *Sittlichkeit* appropriate to life whereas the latter does not. This taken together with Hegel’s demarcation between the sphere of duties appropriate to the human world and those appropriate to life as such, the “problem” of demarcating between an ecosystem and a highway system disappears along with the environmentalist misanthropy Guha rightly worries about.¹⁵²

Of course, specific laws regarding ecosystem ethics cannot be derived ontologically but must be determined empirically through a democratic pro-

cess. Hegel only gives us an ontological underpinning for such a move.¹⁵³ Such an ethic cannot stand in the way of genuine human need, but neither should human greed or mere convenience take precedence.¹⁵⁴ However, deciding where the boundary lies between need and greed in any given case is an empirical issue, not an ontological one.¹⁵⁵ Hegel's *Logic*, though, holds the promise of fostering an "ontological sensitivity" to the kinds of being that belong to things through thinking the determinacy implicit in them. Moreover, on a critical level it might enable us to ferret out misconceptions that may be employed or assumed as a veneer of legitimacy for certain actions, and it might enable us to render explicit inappropriate categories presupposed by certain actions.

But the intrinsic sadness of the living being lies in the fact that it will always be subject to human caprice in a way that human beings themselves are not. The living being has no resources in itself to escape this fate. Human freedom objectifies itself in the form of the laws and institutions that enshrine it. Slavery, for instance, is not overcome by a thoughtful "ontological sensitivity," but by freedom which claims rights and by the laws that such freedom engenders. The enslavement of human beings is not something that is subject to my sensitivity, but the living being is. This is why mechanistic theories of life may well pose particular danger to nonhuman living beings. There is much less in place to prevent the use of such theories as underpinnings for a destructive practice that acts upon living beings as upon mechanical objects. And this danger lends a certain urgency to the task of appropriately conceiving of life to begin with.

The living organism is thus consigned to human morality. Human morality in turn must be called to a sense of responsibility in being brought to recognize the inherent ontological structure of life that renders it irreducible to mechanism. This recognition is binding upon action to the degree that the understanding of such ontology is bound up with human action. If I act on living beings as on mechanical objects, whether this be the direct destruction of species or the destruction of habitats that constitute the externality belonging to such species, I reveal in this action my own lack of understanding. As a rational human being it therefore fulfills my own nature to gain such understanding and to act in accordance with it.

Notes

1. For a clear summary of this take on Hegel, see Alison Stone, *Petrified Intelligence: Nature in Hegel's Philosophy* (Albany: SUNY Press, 2004), p. 137ff. I discuss this work in greater detail below.

2. Cf. for instance the collection of papers in *Hegel and the Philosophy of Nature*, ed. Stephen Houlgate (Albany: SUNY Press, 1998).

3. Peter Singer, *Animal Liberation*, 2nd ed. (New York: Random House, 1990).

4. Singer does take into account differing capacities for suffering, e.g. the suffering a horse undergoes from a slap as compared to that of a human baby from the same slap, but when the suffering is roughly equivalent neither should be given any higher degree of moral consideration. Cf. Peter Singer, *Animal Rights and Human Obligations* (Englewood Cliffs, NJ: Prentice Hall, 1976).

5. See J. Baird Callicott, "Animal Liberation: A Triangular Affair," in *In Defense of the Land Ethic: Essays in Environmental Philosophy* (Albany: SUNY Press, 1989), pp. 15–38.

6. This may not pose a problem for Vogel given his denial that we have any access to what living beings or nature are "in themselves" anyway (see the discussion below under *Faking Nature and the Nature/Artifice Dualism*). But Vogel's denial is justified only if the latter are indeed as inaccessible and irrelevant as he claims. The Hegelian position sharply contests this claim and problematizes the *reasons why* one would be led to assume such inaccessibility in the first place.

7. For a criticism of the utilitarian standpoint with respect to environmental ethics, cf. Callicott, "Animal Liberation." Callicott rejects the animal rights position on two grounds: he does not accept the hedonist thesis upon which it is based, and he also problematizes the pragmatic consequences of the position (e.g. what would happen to the environment if we freed all the cattle in the world?). I accept Callicott's rejection of the hedonist principle underlying the animal rights position articulated by Singer and with it the rejection of utilitarian ethics as a primary normative foundation. For John Stuart Mill's defense of the principle with respect to utilitarian ethics, see *Utilitarianism* (Cambridge: Hackett Publishing Company, 1979), pp. 6–8 and pp. 34–40. Mill himself suggests extending the sentience criterion to nonhuman beings on p. 12, albeit without the more radical demand for full equality drawn by Singer.

8. Tom Regan, *The Case for Animal Rights* (Berkeley: University of California Press, 1983).

9. Mary Anne Warren, "Difficulties with the Strong Animal Rights Position," in *Environmental Ethics: Readings in Theory and Application*, ed. L. Pojman (Boston: Jones and Bartlett Publishers, 1994), pp. 47–51.

10. Paul Taylor, "The Ethics of Respect for Nature," *Environmental Ethics* Vol. 3 (Fall 1981): pp. 197–218. For a similar advocacy of a change of attitude that predates Taylor's version by over sixty years, see Albert Schweitzer, *Civilization and Ethics*, trans. A. Naish (London: Black, 1923).

11. See, for instance, Bill Devall and George Sessions, *Deep Ecology: Living as if Nature Mattered* (Salt Lake City: Gibbs M. Smith, Inc., Peregrine Smith Books, 1985); and Michael Tobias, ed., *Deep Ecology* (San Marcos: Avant Books, 1984); as well as *The Trumpeter*, an online journal devoted to deep ecology at <http://trumpeter.athabascau.ca/index.php/trumpet>.

12. See Ramachandra Guha, "Radical American Environmentalism and Wilderness Preservation: A Third World Critique," in *Environmental Ethics* Vol. 11 (Spring 1989): pp. 71–83.

13. Val Plumwood, "Nature, Self, and Gender: Feminism, Environmental Philosophy, and the Critique of Rationalism," *Hypatia* Vol. 6:1 (Spring 1991): pp. 10–26. Though she does qualify the "rationality" she has in view variously as "the rationalist tradition," and as "an oppositionally construed reason," she does not provide us with an alternative account of rationality itself, and so leaves the latter prey to her reductionist view.

14. See Karen Warren, "The Power and Promise of Ecological Feminism," in *Environmental Ethics: Readings in Theory and Application* (ed. Pojman), pp. 124–34.

15. Aldo Leopold, *A Sand County Almanac* (New York: Ballantine Books, 1968), p. 20.

16. I do not, however, wish to minimize or trivialize aesthetic considerations any more than I wish to downplay the importance of oppressive practices. The Hegelian argument I present here does not rely upon such considerations for its normative framework, but they may well be important in themselves for independently given reasons. My overall approach to environmental ethics remains pluralist in that I believe we need a multitude of arguments on different "fronts," as it were. Hegel gives us an ontological front, whereas other kinds of arguments are necessary to address the claim of beauty upon human beings.

17. J. Baird Callicott, "The Conceptual Foundations of the Land Ethic," in *In Defense of the Land Ethic*, p. 83.

18. *Ibid.*, p. 88.

19. *Ibid.*, p. 91.

20. We will see below that the Hegelian account implies an imperative to preserve biological diversity, but we may not have much to say about the rate of change.

21. Callicott, *In Defense of the Land Ethic*, pp. 26, 85, and 133.

22. *Ibid.*, p. 133.

23. *Ibid.*, p. 20.

24. Callicott, "Animal Liberation," pp. 15–38. He even goes as far as to say there that "the extent of misanthropy in modern environmentalism thus may be taken as a measure of the degree to which it is biocentric" (p. 27).

25. Regan, *The Case for Animal Rights*, p. 362. See Callicott's rebuttal of Regan's criticisms as well as his critique of Regan's own theory in "Review of Tom Regan, *The Case for Animal Rights*," *Environmental Ethics* Vol. 7 (1985): pp. 365–72.

26. Callicott, "Conceptual Foundations," pp. 75–99. He has since (1994) added a preface, retracting his earlier defense of misanthropy as "irresponsible." This preface is included in the version of the essay reprinted in *Environmental Ethics*, ed. Robert Elliott (Oxford: Oxford University Press, 1995), pp. 29–30.

27. *Ibid.*, p. 93. Another point that might be raised here is that it is not clear why the fact that one social involvement happens to be temporally prior to another constitutes a criterion whereby an ethic based upon the former should override one based upon the latter. This might be remedied by introducing Kantian or Hegelian arguments, but then mere chronological ordering would become irrelevant.

28. Reproduced in *Environmental Ethics* (ed. Elliott), pp. 76–88.

29. In Erik Katz, *Nature as Subject: Human Obligation and Natural Community* (New York: Rowman & Littlefield Publishers, Inc., 1997), p. 93ff.

30. Ibid., p. 93. For a critique of Katz and the nature/artifact dualism on different grounds from those undertaken here, see Yeuk-Sze Lo, “Natural and Artifactual: Restored Nature as Subject,” in *Environmental Ethics* Vol. 21, No. 3 (Fall 1999): pp. 247–66.

31. See Bill McKibben, *The End of Nature* (Anchor Books, 1997).

32. Steven Vogel, “Environmental Philosophy after the End of Nature,” in *Environmental Ethics* Vol. 24:1 (Spring 2002): p. 23ff. For his account of the conception of nature in Critical Theory that draws upon Habermasian communicative ethics, see Steven Vogel, *Against Nature: The Concept of Nature in Critical Theory* (New York: SUNY Press, 1996).

33. Vogel, “Environmental Philosophy,” p. 24.

34. Ibid., p. 35.

35. Ibid., p. 33.

36. Ibid., p. 34.

37. See Alan D. Sokal, “A Physicist Experiments With Cultural Studies,” at http://www.physics.nyu.edu/faculty/sokal/lingua_franca_v4/lingua_franca_v4.html.

38. Vogel, “Environmental Philosophy,” p. 36.

39. Guha, “Radical American Environmentalism.”

40. I use the term “reduction” in the general senses of “explanatory” and “theory” reductionism as defined by Ernst Mayr in *The Growth of Biological Thought: Diversity, Evolution, and Inheritance* (Cambridge, MA: Belknap/Harvard, 1982), p. 60ff. Explanatory reductionism defines a whole with exclusive reference to its components, as in defining the whole of biology in terms of molecular biology alone. Theory reductionism “postulates that the theories and laws formulated in one field of science (usually a more complex field or one higher in the hierarchy) can be shown to be special cases of theories and laws formulated in some other branch of science” (ibid., p. 62). The now classic example of this is the reduction of biology to physics.

41. This latter teleological reading of Hegel is what David Kolb has aptly called the “great entity” interpretation in which reality is moved toward a final goal by an absolute spirit that is posited in advance of the movement. See David Kolb, *The Critique of Pure Modernity: Hegel, Heidegger, and After* (Chicago: The University of Chicago Press, 1986), p. 42–44.

42. For a more thorough defense of this interpretation, see Stephen Houlgate, *The Opening of Hegel’s Logic* (West Lafayette, Ind.: Purdue University Press, 2006), p. 115ff.

43. See Richard Dien Winfield, *Overcoming Foundations: Studies in Systematic Philosophy* (New York: Columbia University Press, 1989), p. 26–33.

44. Kolb, *The Critique of Pure Modernity*, p. 43.

45. Indeed, the phenomenon of life as it appears to consciousness is treated in the *Phenomenology*, the prequel to the *Logic* that itself does not spell out ontological determinacy.

46. G. W. F. Hegel, *Wissenschaft der Logik II: Werke 6* (Frankfurt: Suhrkamp, 1969), p. 482 (hereafter abbreviated WL). For the English translation, see *Hegel’s Science of Logic*, trans. A. V. Miller (Atlantic Highlands, NJ: Humanities Press, 1969), p. 771 (hereafter abbreviated SL).

47. In his article “Why I Am Not a Nonanthropocentrist: Callicott and the Failure of Monistic Inherentism” (in *Environmental Ethics*, Vol. 17, No. 4 [Winter 1995];, pp. 341–58), Bryan G. Norton has criticized any and all attempts to provide ontological solutions for problems in environmental ethics, directing his critique specifically at Callicott’s version of

a metaphysics of environmental ethics, but generalizing from this to what he calls a “more radical conclusion” by “rejecting metaphysical/ontological solutions to practical conflicts in environmental decision making and abandoning altogether the concept of intrinsic value, whether monistic and ungraded or pluralistic and graded into degrees” (p. 358). However, his critique seems to be based on the assumption that all such theories must involve “the assumptions of modernism” in that “the distinction between ontologically independent subjects and objects as well as the process of identifying owners of inherent value” is a “pseudo-problem created by the assumption that observers exist outside the world observed, and that there is an ontological solution to the problem of making better environmental decisions” (p. 358). The ecosystem ethic I defend here on Hegelian grounds, however, does not involve such assertions of ownership and it certainly does not make “the assumption that observers exist outside the world observed.” But even leaving these considerations aside, one may well still wonder whether Norton's own professed managerial model is indeed superior as he claims or if it merely begs all the philosophical questions about value by concealing them in a managerial/bureaucratic orientation that assumes values to be given in advance as “interests” and then merely attempts to accommodate as many of them as possible in a utilitarian strategy. If he claims to be able to “make better environmental decisions” on different grounds, then he at least owes us an explanation of what constitutes “better” and how this valuation is justified without tacitly presupposing ontological determinacies at some level.

48. Although we could certainly imagine a society in which such understanding became commonplace and hence came to be instilled in habitual character at the precognitive level along the lines of Book 2 of the *Nicomachean Ethics*. Regarding such a pragmatic program, one could even construct an argument that the formation of such an understanding, as a variant of *phronesis*, may be hindered by vice or facilitated by character virtue insofar as the latter facilitates the prudent use of reason in general.

49. WL 409 / SL 711; WL 412 / SL 713.

50. Although such colloquial illustrations may serve well as heuristic aids for grasping the conceptual determinacy in view, we should be cautious about their misleading connotations. The indifferent externality here discussed is not *defined against* the idea of something that “cares” or even, at least initially, against purposive activity insofar as this would be to introduce determinacies not yet warranted at this stage in the logical development of categories.

51. For Descartes's own characterization of this determinacy as “external extension,” see René Descartes, *The Philosophical Writings of Descartes Vol. I*, trans. J. Cottingham, R. Stoothoff, and D. Murdoch (New York: Cambridge University Press, 1985), pp. 91–92.

52. WL 413 / SL 714.

53. This transition occurs through the development of centrality in “absolute mechanism” (WL 412–428 / SL 721–726).

54. WL 429 / SL 728.

55. WL 430–33 / SL 728–30.

56. WL 433 / SL 731.

57. WL 435–36 / SL 732–33.

58. For a helpful discussion of teleology in Hegel and in Kant with respect to modern biology, cf. Daniel Dahlstrom, “Hegel's Appropriation of Kant's Account of Teleology in Nature,” in *Hegel and the Philosophy of Nature*, ed. Houlgate, p. 167–88.

59. WL 452–53; 457 / SL 746–47; 750.

60. WL 450–51 / SL 745.

61. WL 458–61 / SL 751–53.

62. How this teleological structure of positing something as not posited might be manifest empirically will become clearer in the treatment of life below, specifically under the subsection “Irritability.”

63. WL 460 / SL 752.

64. J. McTaggart, *A Commentary on Hegel’s Logic* (New York: Russell & Russell, 1964), p. 270.

65. WL 468 / SL 760.

66. G. W. F. Hegel, *Enzyklopädie der philosophischen Wissenschaften I* (Frankfurt: Suhrkamp, 1970), §212, addition (p. 367). For a complete English translation, see *The Encyclopaedia Logic*, trans. T. F. Geraets, W. A. Suchting, and H. S. Harris (Indianapolis: Hackett Publishing Company, 1991), p. 286.

67. Hegel, *Enzyklopädie der philosophischen Wissenschaften I*, §212, addition (*The Encyclopaedia Logic*, p. 367).

68. Similarly, life will show itself to be self-contradictory in its own way and will thereby render necessary a more developed determinacy, knowing (*Erkennen*), which turns out to be a more concrete realization of the universality implied by life but which the latter on its own terms cannot achieve (see WL 486–87 / SL 774).

69. For a more detailed exegesis of Hegel’s account of the transition of mechanism to life in the *Science of Logic* that traces the various forms of mechanism, chemism, and teleology, as well as my argument for the radical irreducibility of biological phenomena to mechanistic determinacy based on that exegesis, see Wendell Kisner, “The Category of Life, Mechanistic Reduction, and the Uniqueness of Biology,” in *Cosmos and History: The Journal of Natural and Social Philosophy*, special issue, “What is Life?” No. 1, 2008 (<http://www.cosmosandhistory.org/index.php/journal/article/view/189/231>).

70. Thus to limit oneself to the “viewpoint” of genetic structure and assert that, say, the life of an organism is nothing more than a means for the perpetuation of its DNA, as Richard Dawkins has (perhaps unfairly) been taken to suggest at times, is to reinscribe living process back into mechanistic determinacy and thereby overlook the self-contradictions in the latter that lead us to a concept of life in the first place (see Richard Dawkins, *The Selfish Gene*, [Oxford: Oxford University Press, 2006]). Following Hegel, we can openly acknowledge the presence of such mechanistic determinacy without either resorting to metaphysical postulates on the one hand or to reductive physicalism on the other.

71. WL 476 / SL 766.

72. WL 474–475 / SL 764–765.

73. WL 477 / SL 767.

74. WL 476–77 / SL 766–77. The verb *gliedern* means to join through division, to articulate. The English word “articulation” comes closest to *Glied* in signifying a differential unity, a joining that only is a joining in and through difference, wherein the difference and the unity are the same. This is the sense Hegel is undoubtedly trying to indicate here and is consistent with the use of the word “articulation” in zoology to refer to the joints between bones as well as in botany to the separable parts of plants. Although the usual translation of *Glieder* as “members” may be more familiar to many readers in reference to parts of the body, such

translation loses the above-mentioned sense which better expresses the negative unity present here.

75. As Hegel remarks in §216 of the *Enzyklopädie*, this point reiterates Aristotle's observation that "the eye or the hand (or any other part) of a corpse is not really an eye or a hand." See *Parts of Animals*, 641a5 in *The Loeb Classical Library: Aristotle XII* (Cambridge, MA: Harvard University Press, 1983).

76. WL 478 / SL 768.

77. Ibid.

78. Ibid.

79. "[T]he living being in irritability is its externality to itself" (WL 479 / SL 768).

80. Hence Hegel calls this the "moment of *posited* difference" (WL 478 / SL 768).

81. WL 479 / SL 768.

82. Hegel is no doubt drawing the term "irritability" (*Irritabilität*) from the physiology and biology of his day, and its biological sense should be kept distinct from the negative connotation of petulance found in its colloquial English usage. The sense of the original Latin term *irritare* is to provoke or excite in general. The biological sense of the term "irritability" has appeared in English at least since the late eighteenth century, according to the *Oxford English Dictionary*, which gives its meaning thus: "The capacity of being excited to vital action (e.g. motion, contraction, nervous impulse, etc.) by the application of an external stimulus: a property of living matter or protoplasm in general, and characteristic in a special degree of certain organs and tissues of animals and plants, esp. muscles and nerves." As an intrinsic characteristic of "protoplasm in general," we can see that the word "irritability" addresses life at the most minimal level and so is appropriate in the present context. Be that as it may, Hegel's choice of words should not be identified with the ontological movement, a movement which has its own necessity regardless of where Hegel gets his terms.

83. In this way, "the self-determination of the living is its judgment or finitization [*Verendlichung*] whereby it relates itself to externality as to a presupposed objectivity and is thereby in reciprocal activity with it" (WL 479 / SL 768).

84. "According to its particularity" Hegel asserts that the living organism now shows itself as a "species [*Art*] alongside other species of living beings" (WL 479 / SL 768). The introduction of "species" here may be premature—I prefer to limit the terminology at this point in the logical development to the more indeterminate sense of a mere multiplicity of other organisms, reserving "species" for the subsequent development of the determinacy Hegel calls "genus" (*Gattung*).

85. At least in its "weak" form, the much celebrated "Gaia Hypothesis" recognizes that life shapes its own physical environment, which Kirchner has shown to be at least as old as the nineteenth century (cf. James W. Kirchner, "The Gaia Hypotheses: Are They Testable? Are They Useful?" in *Scientists on Gaia*, ed. S. H. Schneider and P. J. Boston [Cambridge, MA: MIT Press, 1992]). I will return to this point in connection with contemporary biological thinking below.

86. See Richard Dawkins, *The Extended Phenotype: The Long Reach of the Gene* (New York: Oxford University Press, 1999). For the horse and bird's nest examples, as well as a brief synopsis of the theory in an interview, see the excerpt of Jeremy Stangroom's 1998 interview with Dawkins at <http://www.simonyi.ox.ac.uk/dawkins/WorldOfDawkins-archive/Dawkins/>

Work/Interviews/genes_and_determinism.shtml (published in *The Philosophers' Magazine*, no. 6 [Spring 1999]).

87. WL 481 / SL 770.

88. Ibid.

89. This is why the representation of life in mechanistic terms cannot grasp the phenomenon of pain—it can only regard it in an external fashion, and must finally admit that it can never get “inside” the organism in order to describe the actual experience of pain. For it there will always be a rift between its external description and the inner, “subjective” experience, and so it must disregard the latter as scientifically unimportant. Thus for Thomas Nagel, no account of neuronal firings could possibly demonstrate the necessity of pain (cited in John Searle’s *The Rediscovery of the Mind*, MIT Press: Cambridge, 1992, p. 101). This concession is open to the epistemological objection, raised by Searle, that this impossibility is due to our limited conceptual abilities rather than to the matter itself (Ibid., p. 102). But Searle does assert that, however it may be conceived, “the reduction of pain to its physical reality still leaves the subjective experience of pain unreduced”(ibid., p. 121). Hegel provides ontological grounds for this subjective experience, and indeed in such a way that shows these grounds to be more appropriate, ontologically speaking, than any mechanistic explanation can hope to be.

90. Although we must admit that plants do not experience “pain” in any sense that would depend upon a nervous system, the question here is whether there is another sense to the concept of pain, and one that is thought at a greater level of abstraction than the usual neurological (and empirical) sense. Hegel is conceiving of “pain” as an ontological structure of the category of life made logically necessary by the latter’s own implications.

91. WL 479 / SL 768.

92. WL 479 / SL 769.

93. Ibid.

94. Ibid.

95. WL 482 / SL 771.

96. WL 228 / SL 562.

97. Ibid.

98. WL 482 / SL 771.

99. Richard C. Lewontin, “There Is No ‘Environment,’” in *Living with the Earth: An Introduction to Environmental Philosophy* (Toronto: Harcourt Brace & Company, 1996), p. 156.

100. Ibid.

101. Ibid., p. 158.

102. Ibid., p. 156.

103. Ibid., p. 161.

104. Ibid.

105. Sokal, “A Physicist Experiments With Cultural Studies.”

106. Lewontin, “There Is No ‘Environment,’” p. 161.

107. Ibid.

108. Ibid., p. 162. With respect to environmental activism Lewontin further argues that, rather than trying to “save” a univocal environment that belongs to “nature,” human beings need to fully recognize their own participation in what constitutes an “environment” for us

in any case, whether a beneficial or a harmful one, and thereby open up the possibility of genuine and effective political/social action.

109. WL 483 / SL 771–72.

110. Although Hegel will return to a more explicit treatment of death in the *Philosophy of Nature*, his characterization here of the living organism as something “dead” (*Totes*, Hegel's emphasis—WL 476 / SL 766) when regarded solely in terms of its subordinate mechanico-chemical processes indicates that the present analysis in the *Logic* is spelling out the minimal ontological determinacy of organic death. This is also why, in regarding life mechanistically, cybernetics can really only represent a living being as something dead. It is a few pages further that Hegel characterizes the mechanico-chemical aspects of life as the “beginning of the dissolution of the living being” (*Beginnen der Auflösung des Lebendigen*—WL 483 / SL 772). Merely because Hegel does not immediately employ the word “death” in this latter citation is no argument against the implications regarding death that I draw here. My interpretation is given support in any case by Hegel's own earlier introduction of the concept. Indeed, he had even introduced it as far back as the logic of being, writing of finite things that “the hour of their birth is the hour of their death” (*Wissenschaft der Logik I: Werke* 5 [Frankfurt: Suhrkamp, 1969], p. 140; SL 129), although one might justifiably characterize this early introduction of the term as a heuristic remark that does not strictly speaking belong to the logical development.

111. We might note in passing that in determining itself, life determines itself to die. Contrary to Spinoza's claim that, attending only to the defining characteristics of a thing itself, we can find nothing in it which would destroy it, and therefore nothing can be destroyed except by an external cause (*Ethics* III:P4), the organism's death is *its own self-determination*. Nor is the organism shattered from outside the closed ring of its self-relation, as Heidegger suggests (Martin Heidegger, *Die Grundbegriffe der Metaphysik: Welt-Endlichkeit-Einsamkeit* [Frankfurt: Vittorio Klostermann, 1983], p. 396). Standing outside the animal from a phenomenologist's perspective, as Heidegger does, it may appear this way. But for Hegel this perspective could only be the standpoint of an external reflection that does not grasp the ontological determinations of life in their inner necessity. Hegel's thought brings us within the inner ontological process of life, something Heidegger cannot do insofar as his *access* to the living being is problematic. But given the *immediacy* of a presupposed objectivity posited by the negativity that life is, Heidegger is not altogether wrong in trying to think the death of the organism as an “essential violent convulsion or shock” (*wesenhafte Erschütterung*—*ibid.*) brought into the essence of the animal. The immediacy of the posited externality makes it appear this way.

112. *Enzyklopädie der philosophischen Wissenschaften II: Werke* 9 (Frankfurt: Suhrkamp, 1970), §219, addition (*The Encyclopaedia Logic*, p. 286).

113. See the transition from causality to universality in WL 237–240 / SL 569–571 as well as the subsequent discussion of universality in WL 273–279 / SL 601–605.

114. WL 484–85 / SL 773.

115. Thus Hegel writes, “The individual is therefore certainly *in itself* the genus, but it is not *for itself* the genus; what is for it is at first merely another living individual” (WL 485 / SL 773). For the transition to *Erkennen*, see WL 486–87 / SL 774.

116. Cited in Francois Jacob, *The Logic of Life: A History of Heredity*, trans. Betty Spillman (Princeton, NJ: Princeton University Press, 1973), p. 47.

117. It is in *this* sense that we might acknowledge a legitimate place for Richard Dawkins's notion of a “selfish gene” that makes use of the organism to perpetuate itself (Dawkins,

The Selfish Gene). The DNA code could be seen as an identity maintaining itself in and through different living individuals, and thereby as a universality persisting in otherness. It does so, however, in such a way that the living individual is not explicitly unified with that universal.

118. And of course it would be merely dogmatic to assert that the very conception of such an ontological account in itself “already” reflects something like a “male-gender bias” without first *at least* demonstrating the impossibility of Hegel’s project to avoid presupposing any underived determinacies. This is not to say that the social considerations raised by Warren are not important in themselves or for other reasons, but it is to say that they do not constitute the *sine qua non* of any adequate environmental ethic that she claims they do. For a rather scathing critique of Warren’s position, cf. Margarita Garcia Levin, “A Critique of Ecofeminism,” in *Environmental Ethics: Readings in Theory and Application* (ed. Pojman), pp. 134–40.

119. Callicott, *In Defense of the Land Ethic*, p. 79. Cf. also Callicott’s essay “Hume’s Is/Ought Dichotomy and the Relation of Ecology to Leopold’s Land Ethic,” contained in the same volume, p. 117–27.

120. Guha, “Radical American Environmentalism.”

121. Vogel, “Environmental Philosophy after the End of Nature,” p. 35. Hegel actually avoids any such foundationalist logic that would seek to locate normative validity in a ground or origin.

122. *Ibid.*

123. Lewontin, “There Is No ‘Environment.’”

124. Vogel, “Environmental Philosophy after the End of Nature,” p. 23.

125. This lack of ontological clarification may also have potential practical consequences. For instance, why shouldn’t one simply jettison “environmental philosophy” as self-contradictory and adopt dualistic realism *against* the misguided environmentalists who hold it without recognizing its inconsistency with their other stated aims?

126. Vogel, “Environmental Philosophy after the End of Nature,” p. 26.

127. *Ibid.*

128. Elsewhere it seems that Vogel may come close to such a view when he writes of Hegel that his “radicalization of the Kantian ‘answer’ to skepticism, and his rejection of the doctrine of noumena, implied that we know the real world because we are involved in constituting it” (Steven Vogel, “Nature as Origin and Difference: On Environmental Philosophy and Continental Thought,” in *Philosophy Today* Vol. 42, Supplement (1998): p. 175).

129. Stone, *Petrified Intelligence*.

130. *Ibid.*, p. 135ff.

131. *Ibid.*, p. 149.

132. *Ibid.*, p. 143.

133. *Ibid.*

134. This finite purposiveness, for instance, reappears at the beginning of the *Philosophy of Right* as well, in freedom as the mere *form* of willing that wills a *content* that is externally given and so not determined by freedom, thereby leaving such freedom unfree in an important sense. The tension here between freedom and unfreedom is only resolved when this shape of freedom is superseded by a freedom that wills itself, thereby bringing form and content together in one act of willing. Here as well finite purposiveness—or, at this more developed level of determinacy, freedom defined as “free choice”—does not remain definitive but shows

itself to be unsustainable through its own immanent logic. Likewise the subjective goodness that Stone points to near the end of the *Logic* does not remain definitive. Once again due to the very intrinsic nullity of external objectivity, the obstacle to the good turns out to be “only the will itself that stands in the way of reaching its goal” (WL 545 / SL 821). Thus the obstacle of the will to itself is only resolved in the full recognition that any external objectivity standing in itself apart from life process is a nullity and so cannot maintain the semblance of a content falling outside of purposive activity.

135. Leaving extra-terrestrial landscapes aside, if we define a terrestrially relevant “lifeless landscape” as an environment that does *not* function as the externality through which living beings live, it may nonetheless still be an environment that living beings make use of but not for life needs. Hence it may be that the only terrestrially relevant lifeless landscapes there are would be those human beings construct for the purposes of entertainment, distraction, sheer profit maximization, etc., e.g. shopping malls, amusement parks, etc. The key criterion here, however, is not a distinction between the natural and the artificial *per se* but rather between *two different kinds of externality*: that through which living beings live as opposed to that which is based upon something else. I will return to this problem, which I take to be an empirical rather than an ontological one, in the concluding discussion of need vs. greed.

136. Stone, *Petrified Intelligence*, p. 148.

137. *Ibid.*, p. 144.

138. *Ibid.*, p. 169.

139. Stone suggests that “all natural forms are (at least) partly good, and, indeed, become increasingly good as their conceptual element prevails over their material side, resulting in a ranking of all natural forms on a scale of ascending goodness” (*ibid.*, p. 140).

140. G. W. F. Hegel, *Philosophy of Right*, trans. T. M. Knox (Oxford: Oxford University Press, 1967), §44; *Grundlinien der Philosophie des Rechts oder Naturrecht und Staatswissenschaft im Grundrisse*, Werke 7 (Frankfurt: Suhrkamp, 1986), §44 (my emphasis).

141. *Ibid.*, addition to §44, p. 236.

142. *Ibid.*

143. Needless to say, I do not recognize any necessity to assume that Hegel everywhere maintained fidelity to the implications of his own philosophy.

144. Although ironically, after constructing a “phenomenological argument” as a justification for Hegel’s rationalist metaphysics insofar as the latter “makes it possible to elaborate a theory of the natural world that articulates our basic form of experience of it, which is sensible,” and thereby respects what she takes to be an implied “general commitment to a principle that adequate theories must articulate sensible experience,” Stone concludes by faulting Hegel for not fully explaining “why sensibility should be considered veridical in the first place” (Stone, *Petrified Intelligence*, pp. xx, 169). By neither grounding the Hegelian system in a principle of faithfulness to sensibility through a phenomenology nor in the *Philosophy of Nature*, but instead beginning with the *Logic*, my account avoids this pseudo-problem.

145. This doesn’t mean, however, that working out the full relevance and meaning of the logical categories in the context of the further determinacies derived in the philosophy of nature is not an important task that needs to be carried out, a problem well beyond the scope of this paper.

146. Stone, *Petrified Intelligence*, p. 157.

147. *Ibid.*

148. Elliott Sober, "Philosophical Problems for Environmentalism," in *Environmental Ethics* (ed. Elliott), pp. 226–47.

149. For an account of this position, see Christopher Stone, *Should Trees Have Standing?* (Los Altos, CA: William Kaufmann, 1972). See also Mark Sagoff, "On Preserving the Natural Environment," *Yale Law Review* Vol. 84 (1974): pp. 205–67.

150. Sober, "Philosophical Problems," pp. 242–43.

151. *Ibid.*, p. 243.

152. Another consideration not developed in this paper is that something like a highway system might be modified or moved to accommodate both human needs as well as environmental preservation, something not entirely possible with natural ecosystems.

153. Political philosophy, for instance, deals with the universal concepts that are necessarily generated out of the development of freedom, but in any particular instance it must be empirically determined how to realize the ontological determinacy of freedom in a given socio-economic context, e.g. what the exact tax rate will be and how it will be levied or, in this case, what specific regulations should govern human interactions with living species and their ecosystems. These decisions "lie outside the explicit determinacy of the concept" (*Enzyklopädie I*, §16, addition). The contingency of the empirical sphere means that at a certain level any systematic derivation is impossible with respect to the determinacies within it, which themselves "allow a latitude for their determination" (*ibid.*). As with the aesthetic considerations noted above (see note 16), I have no wish to minimize the importance of and difficulties with working out environmental decisions at the empirical level. Again, my approach is pluralist. Instead of staking out one's territory by saying that "we don't need X" or "we really only need Y" (e.g. as Bryan Norton does in his flat-out rejection of ontological arguments, see note 47 above, and as activists can be prone to do), I prefer to engage in a multiplicity of fronts with respect to environmental issues.

154. Hence to the degree that a human-constructed infrastructure such as a network of roads for conducting business and daily affairs is necessary for human beings to adequately meet their life needs, such infrastructure is an externality belonging to human life just as much as an anthill is an externality belonging to ant life. Here human life needs take precedence due to the more explicit and complete realization of freedom in the human sphere, and hence Hegel's argument would speak against displacement of local human populations for the sake of restoring and preserving habitats for endangered species, which is a misanthropy Guha rightly worries about (Guha, "Radical American Environmentalism"). On the other hand, habitat destruction for the sake of building a golf course is another matter (see also note 135 above).

155. I would offer a similar response to the problems raised by Lilly-Marlene Russow's "test cases," which she relies upon to guide the search for human obligations to nonhumans and to determine the nature of those obligations. I take these as well as any other "test cases" to be empirical issues which, thorny as they may be, lie outside the ontological account. Because she bases her account on empirical cases without first undertaking an ontological clarification of life, it is no accident that she winds up adopting an ethic based on aesthetic appreciation of individual organisms, repeating the now classic gesture of subjectivizing the human relation to a nonhuman sphere atomistically conceived. See Lilly-Marlene Russow, "Why Do Species Matter?" in *Environmental Ethics* Vol. 3 (1981), also reprinted in *Environmental Ethics: Readings in Theory and Application* (ed. Pojman), pp. 158–64.