

Chapter Three

The Idea of an Existential Ecology

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Ecology teaches us that the human place in nature is not one separate and aloof but rather necessarily and intimately situated with other organisms. As John Muir has eloquently stated, “when we try to pick out anything by itself, we find it hitched to everything else in the Universe.”¹ The implication of this important lesson is profound, for it implies that life is, at its root, fundamentally associational.² My aim here is to suggest an existential interpretation of this idea. This idea of an existential ecology, which I am proposing here, is anchored in the work of two writers, particularly Hans Jonas and Aldo Leopold.³ By training, the first is a philosopher, the second a forester and wildlife manager. The former, a student of Martin Heidegger, wrote comprehensively on early Gnostic Christianity,⁴ the philosophy of life, and ethical theory.⁵ The latter, one of the earliest students of the Yale School of Forestry, wrote on the value of wilderness preservation,⁶ sustainable agriculture, wildlife management,⁷ and cooperative land conservation.⁸ Neither knew of nor were influenced by the other’s work, yet their thinking finds confluence in this idea I am proposing. For this is an idea ultimately about land, land in the sense that Aldo Leopold conceives it in his beautiful work, *A Sand County Almanac*.⁹ In short, an existential ecology is that “collective science of relations of the organism to the surrounding external world wherein we can account for all existence-conditions in the widest sense.”¹⁰

In this chapter, I intend to extend Jonas’s existential interpretation of biological facts, which he articulates in *The Phenomenon of Life*,¹¹ to Leopold’s ecological conception of land. However, the dissimilitude of the two thinkers’ orientation and philosophical conclusions requires a complex presentation. Consequently, in the first part of this chapter, I will articulate and analyze Jonas’s monistic philosophy of life by comparison with the philosophy of life advanced by an earlier phenomenological thinker, Max Scheler. Specifically,

I will argue that the conception of life which Scheler advances in his last published work, *The Human Place in the Cosmos*,¹² frames the problem underlying Jonas's existential interpretation of biological facts. The importance of this clarification will become clear in the second part of my chapter. For here I will reconceive and apply Jonas's existential interpretation to the land concept as advanced by Leopold. Such a translation grounds a proper view of ourselves, that is, as "only a member of a biotic team."¹³ The broadening of Jonas's project is called for, I believe, since Jonas's philosophy of life lacks an explicit ecological understanding of living entities.¹⁴ Finally, in my conclusion, I will show how this idea of an existential ecology coordinates well with certain evolutionary models of organism-environment interactions advanced today by neo-Lamarckian evolutionary theorists. The preeminent aim of this chapter is to lay the ground for a new existential understanding of the household of nature and of the human place in this household.

THE PHILOSOPHY OF LIFE—HANS JONAS AND MAX SCHELER

In the early 1960s, Hans Jonas published his most important work, *The Phenomenon of Life*.¹⁵ This work consists of eleven essays on disparate but coordinated themes. The first seven essays of this collection explicitly concern his philosophy of the organism. In these essays he advances his "'existential' interpretation of biological facts."¹⁶ As he remarks, his ambition is "to break through the anthropocentric confines of idealist and existentialist philosophy as well as through the materialist confines of natural science."¹⁷ Advancing a philosophical or postdualistic monism that neither reduces life to its materialist basis nor subsumes this basis within an idealist frame, he argues that "the organic even in its lowest forms prefigures mind, and that mind even on its highest reaches remains part of the organic."¹⁸ Given that Jonas's existential interpretation in *The Phenomenon of Life* proceeds from the premise of his philosophical monism, my basic aim in this section is to clarify Jonas's monistic philosophy of life. To achieve this end, I will analyze it comparatively against Max Scheler's philosophy, particularly Scheler's conception of the antagonism between life and spirit or mind (*Geist*), which he articulates in *The Human Place in the Cosmos*. I hold that Scheler's dualistic analysis of life and spirit, pointedly expressed in his last published work, properly frames the problem to which Jonas's monism is a response. Thus, a secondary aim herein is to defend this view.

This first part of the essay, thus, has two sections. First, I will present a sketch of Scheler's philosophical anthropology in *The Human Place in the*

Cosmos. On the basis of this, I will, then, comparatively analyze Jonas's post-dualistic monism against Scheler's philosophical anthropology.

Max Scheler's Philosophical Anthropology: The Antithesis of Life and Spirit

The antithesis Max Scheler draws between life and spirit seems singular in its constancy throughout the course of his writings. While life and spirit are fundamentally antithetical principles, it remains impossible, he holds, to understand the human person except as an embodied, corporeal being. Embodiment is a basic category of life. Spirit and life are thus necessarily related, according to Scheler, in the human person. The human person is that unique entity that, in the midst of its surroundings "by virtue of its spirit, can take an ascetic attitude toward its fervent and vibrating life."¹⁹

In so distinguishing spirit from life, Scheler insinuates a dual ontology, where spirit and life designate two discrete ontic realms. For Scheler, then, psychological and physiological processes are ontologically identical in a strict sense, that is, as processes of life. "When we take the 'psychological' and the 'physiological' as two sides of one and the same process of life, to which correspond two ways of looking at the same process, the X which is acting out the two ways of looking at one and the same thing must be superior to the antithesis of body and soul. This X is nothing else but spirit."²⁰ Where the physiological and psychological aspects of egoic existence are both processes of life, spirit is that aspect of our existence by which we can objectify these processes. Spirit, itself, is that which can never be objectified.

Though Scheler consistently demarcates life from spirit, he nevertheless argues their essential connection in the human person. "Finally, according to our theory, the spiritual acts, which draw their entire energy for their activity from the vital sphere of drives, and which cannot manifest themselves in our experience, even that of ourselves, without some kind of 'energy,' must also possess physiological and psychic parallels."²¹ At its most primitive, life is characterized by Scheler as a primitive *Gefühlsdrang* or feeling impulse. This impulse, Scheler asserts, is "the stream, as it were, which pushes forward and up into the highest stages of spiritual activities and which provides energy to the most tender acts of lucid goodness."²² He argues in other words that spirit has no power or energy without life and thus cannot be effective in any possible sense without anchor in the native corporeal ground of our being. Life infuses spirit with a potency foreign to its own essence. It is for this reason, Scheler holds, that "spirit and life dovetail (*sind aufeinander hineingeordnet*)."²³

From Scheler to Jonas—Paths along the Same Terrain

By emphasizing the basic relation of spirit to life in Scheler's philosophy, I mean to suggest a path for understanding the ontology of life as proposed by Hans Jonas.²⁴ In *The Human Place in the Cosmos*, published in 1927, Scheler sketches a philosophical anthropology or, more precisely, a phenomenology of the human being. However, he proffers much more than a study of the essence of the human being in this short work. While the principles of life and spirit emanate from a singular ground of all things, he argues, nevertheless, that the spiritual principle arises *sui generis* with the human person. Consequently, he presents us with an ontology of life as such and seeks to show by means of this that the word "human" (*der Mensch*), though signifying a being necessarily emplaced within the continuum of all living beings, signifies as well a set of characteristics that must be sharply and essentially distinguished from the concept of the animal and, more generally, that of the organism. This eidetic project is coincident with Jonas's anthropology. Yet Jonas's philosophy of the organism and of the human proceeds strictly from a premise of philosophical monism.

Jonas's insistence on this last point motivates an important critique of his teacher, Martin Heidegger. In his essay "Gnosticism, Existentialism, and Nihilism" in *The Phenomenon of Life*, Jonas expressly attacks Heidegger's "conception of a transessential, freely 'self-projecting' existence."²⁵ This is a conception most clearly and explicitly articulated by Heidegger in his "Letter on Humanism," to which Jonas alludes in the essay. For reasons fundamental to his conception of Dasein, Heidegger places human existence outside any sort of scale of nature.

Therefore ek-sistence can also never be thought of as a specific kind of living creature among others—granted that the human being is destined to think the essence of his being and not merely to give accounts of the nature and history of his constitution and activities. Thus even what we attribute to the human being as *animalitas* on the basis of the comparison with "beasts" is itself grounded in the essence of ek-sistence. The human body is something essentially other than an animal organism.²⁶

Herein lies Heidegger's Gnosticism, that is, his complete antinaturalism. This view is worked out more fully by Heidegger in his earlier lecture course, *The Fundamental Concepts of Metaphysics*.²⁷ Heidegger argues here—as he did later in the *Letter on Humanism*—that the human, in contrast to the animal, is neither ensconced nor captivated in an environmental niche. The existence of human beings occurs as the clearing of being. Unlike the animal, therefore, the human is, rather, open to the world. Scheler articulated a nearly identical claim two years earlier. Where the animal remains inescapably pushed

or pulled this or that way within its environment, the human, according to Scheler, is "not tied anymore to its drives and environment, but is 'non-environmental' or, as I (that is, Scheler) wish to put it, 'world-open.'"²⁸ World-openness, according to Scheler, is a human possibility insofar as humans are capable of withdrawing from their immersion amidst the things that attract and repulse them by means of an act of spirit. Scheler describes this spiritual act of withdrawal as an act of derealization, which he calls a phenomenological reduction. This possibility to enact a phenomenological reduction marks, for Scheler, the special human station in the cosmos.

Like Scheler (and like Heidegger), Jonas asserts a radically similar possibility open specifically to humans. As Jonas puts it, humans, as opposed to animals, can play with images "in detachment from the actuality of sensation and thereby from the stubborn factuality of the object's own being."²⁹ The Human, in other words, enjoy a distinct spiritual freedom to separate the remembered *eidos* from its occurrence in an individual encounter. "What we here have," Jonas argues, "is a trans-animal, uniquely human fact: eidetic control of motility, that is, muscular action governed not by set stimulus-response pattern but freely chosen, internally represented and purposely projected form."³⁰

Jonas argues, in contradistinction to Scheler, that every mental activity, no matter how abstract, has corporeal root.³¹ Indeed, this rootedness marks the very meaning of Jonas's philosophical monism, which distinguishes Jonas most clearly from Scheler. Scheler, as we have seen, holds that spirit, in principle, has an origin distinct from that of the vital impulsion. The human accordingly finds within herself both a spiritual and a vital principle. "The human being is the meeting-place of spirit and impulsion, and it is in the human being that the logos, 'after' which the world is made, becomes an act that is acted out with the human being."³² Though, their understanding of the relation of spirit or mind to life separates them, both demarcate an essential divide distinguishing the human from the animal, while holding that the human qua human remains necessarily situated within the continuum of nature.

This basic agreement informs their unique conception of the evolution of life. Looking to Jonas first, he anchors all organic powers and functions in the metabolic activities of the organism. These activities express the concern of life at its most fundamental level with its own being. That is to say, life is marked by a purposive activity of the organism, that is, metabolism, to maintain the form of its individual being. According to Jonas, to reduce metabolism merely to physiochemical processes misconstrues the very essence of life. He argues:

In living things, nature springs an ontological surprise in which the world-accident of terrestrial conditions brings to light an entirely new possibility of

being: *systems of matter that are unities of a manifold*, not in virtue of a synthesizing perception whose object they happen to be, not by the mere concurrence of the forces that bind their parts together, but *in virtue of themselves, for the sake of themselves, and continually sustained by themselves*. Here wholeness is self-integrating in active performance, and form for once is the cause rather than the result of the material collections in which it successively subsists. ... This ontological individual, its very existence at any moment, its duration and its identity in duration is, then, essentially its own function, its own concern, its own continuous achievement.³³

A living organism necessarily and purposively engages itself with its surroundings. This engagement asserts a new causality in the world, a needful freedom wherein a formal structure, that is to say, the organic individual, maintains its identity amidst the material conditions it requires for its existence. Freedom, or ontic autonomy, is thus not absolutely unfettered, but is rather dialectically bound to the material conditions of its survivability.

What Jonas sketches in *The Phenomenon of Life* is thus "a progressive scale of freedom and peril, culminating in man...."³⁴ For Jonas, vital capabilities, such as moving and desiring, sensing and perceiving, and even the highest mental capacities to imagine and to reason, are ultimately rooted in the most basic vital act of metabolism. This unique philosophy of life shows that "in the dark stirrings of primeval organic substance ... a principle of freedom shines forth for the first time within the vast necessity of the physical universe—a principle foreign to suns, planets, and atoms."³⁵ Consequently, the articulation of a historicity³⁶ of freedom delineates Jonas's distinctive conception of evolution in *The Phenomenon of Life*.

Scheler argues, similarly to Jonas, that even the highest form of animal intelligence remains rooted in the organism's fundamental vital capacity. However, the most basic capacity he identifies, not as metabolism, but rather as a feeling impulse (*Gefühlsdrang*)—where, as the term suggests, feeling (*Gefühl*) and impulse (*Drang*) are not yet distinguishable at this most basic level. Basic living entities exhibit a purposive,³⁷ goal-oriented movement devoid of sensation and representation. Plant life is geared outward, in other words, by this feeling impulse. At this most primitive level, the organism inclines itself toward or away from medial resistances as it projects itself into its environs. In the evolution of life, complex instinctual behaviors arise which define this projection. Morphologically more complex organisms develop a repertoire of behaviors that benefit the species as a whole at the expense of individuals. As more intricate life forms develop, the possibility of a new mode of habitual behaviors arises. Trial and error comes to replace instinctive behaviors in higher forms of life. This development is correlated to the development of sophisticated physioneurological systems in the organism. Intelligence, itself, emerges as neurological feedback systems in the

organism as these systems become more sophisticated. For Scheler, then, intelligence is not special to the human being. Rather, highly developed organisms such as primates, for instance, exhibit practical intelligence in relation to environmental challenges. Intelligence is thus a sort of practical insight regulated by the life drives of the organism. Chimpanzees in their desire to get at ants in a crack of rock may take up a small branch as a tool to capture this food source. Acting in this manner, they intelligently restructure their environment according to ends determined by their life drives. Such a restructuring need not require trial and error, though the perfection of such practical behaviors usually does. Nevertheless, in a singular act, intelligent animals exhibit the capability of restructuring their environment to fit their individual needs. "To be sure, the restructuring described does not take place in the animal by way of conscious and reflective activity; rather, it occurs in terms of a kind of concrete replacement [*anschaulicher Umstellung*] itself of environmental things."³⁸

Without delving into the evolutionary schemes of Jonas and Scheler further, we can see both characterize life—even in its most primitive manifestation—as transcendence. The essential characteristic of life according to Scheler is the drive of an entity outside of itself, engaging itself purposively to that which entices it or repels it. "The essential direction of life which is designated by such words as 'plantlike' and 'vegetative' is a completely outward-directed impulsion."³⁹ This thrown conception is fundamental to Jonas's account as well. He announces this in the very first pages of *The Phenomenon of Life*:

So constitutive for life is the possibility of not-being that its very being is essentially a hovering over this abyss. ... The being thus suspended in possibility is through and through a fact of polarity, and life always exhibits it in these basic respects: the polarity of being and not-being, of self and world, of form and matter, of freedom and necessity. These, as is easily seen, are forms of relation: life is essentially relationship; and relation as such implies "transcendence," a going-beyond-itself on the part of that which entertains the relation. *If we can show the presence of such transcendence, and of the polarities that specify it, at the very base of life in whatever pre-mental form, we have made good the contention that mind is prefigured in organic existence as such.*⁴⁰

Standing over the abyss of nonbeing, life asserts itself, and in so doing projects itself purposively, that is, for its own sake. Jonas's existential analytic of the organism attributes to life an emphatic no to nonbeing. Life thus manifests a new sort of being and a new sort of causality in the cosmos, the living affirmation of its own existence.

While both Scheler and Jonas define life as transcendence, they differ in regard to the essential relation of spirit or mind to the ground of this emanation. Animal life is fundamentally distinguished from plant life, according to Scheler, by a physiological structure that allows it to register

reflectively—however dimly—an inner conscious state. The human, on the other hand, is that sole being, in contradistinction to every other living entity, capable of withdrawing from these environmental resistances. The root of spirit lies in the ground of all being, not in life as such. As noted, though, spirit has no power in and of itself except to direct and guide vital energies toward value preferences reflective of one's own personal character. "The person ... consists in a monarchic structure of acts, of which one act at a time has its steering and directing function and is aimed at that value and that idea with which the human being, in any given case, 'identifies'."⁴¹ For Scheler, then, the two principles of life and spirit are necessarily intertwined in the human person. Spirit, though, enjoys an independence from life that Jonas would deny. Hence, the central contrast between Jonas and Scheler, as I have argued, lies in Jonas's postdualist philosophical monism. For Jonas, mind or spirit arises in the evolution of life out of the material activity of living existence.

While Jonas explicitly dismisses Heidegger's gnostic existentialism, the more basic problem underlying his existentialist interpretation of biological facts lies in Scheler's philosophy. For Scheler advances an essentialist definition of the human being, in which he nevertheless situates the human person within the continuum of nature. Jonas fundamentally agrees with this view. Where Jonas advances an essentialist anthropology, he denies, however, the absolute divorce of spirit or mind from life. Thus, he proposes as his solution his existential interpretation of biological facts. Mind is prefigured in activities of organic being, just as the blossom is presaged in the growth of the branch.

In this section, I have argued that an important community of thinking exists between Hans Jonas and Max Scheler. First, both undertake to articulate a philosophical anthropology, which places the human securely in the continuum of living beings. Second, both employ a neo-Aristotelian frame by which to articulate this understanding of life. And third, perhaps most importantly, both understand life essentially as a form of transcendence. The essence of life is to project itself into its surroundings. Indeed, spirit and the life of drives, mind and the material body, according to both Scheler and Jonas, express a dualism of sorts. The dualism is categorically distinct in Scheler's writings. Nevertheless, for each, this is a dualism in which the principles of bodily life and mental activity stand in a relation within a higher and more comprehensive order than mere material or ideal being. Thus, Jonas agrees essentially with Scheler when the latter says, "physiological and psychic processes are ontologically strictly identical."⁴² Without obviating Scheler's demarcation of spirit from life, this strict ontological identity of which Scheler speaks is, I believe, the very sense of Jonas's new, integral "*postdualistic*" philosophical monism. The "'physiological' and the 'psychological' are but two sides from which we observe one and the same process of life."⁴³

LAND

Where Jonas presents an existential interpretation of biological facts, I wish now to suggest an extension of this to land. However, by land I should specify once again that I mean this in the sense proposed by Aldo Leopold in his famous capstone essay of *A Sand County Almanac*, "The Land Ethic." So, by land I mean something other than mere property, something more than the earthen ground on which we walk. I mean rather the ecological concept of land as a biotic community. Conceptually, therefore, land includes the soil, waters, plants, animals, and, of course, a human presence as well.

Where Jonas's thinking is clearly rooted in the German phenomenological movement, Leopold's influences stem from his study of forestry, game management, and ecology. The definition of land he articulates in *A Sand County Almanac*, as "a fountain of energy flowing through a circuit of soils, plants, and animals,"⁴⁴ relates back to the theory of plant succession and climax advanced by Frederic Clements⁴⁵ and Henry Chandler Cowles,⁴⁶ the study of animal ecology by Charles Elton,⁴⁷ and the dynamic trophic relationships of the lake ecosystem measured by Raymond Lindeman.⁴⁸

Among these influences, Elton's work is of particular importance. Both Elton and Leopold represent the matrix of life by the image of a biotic pyramid. This mental image of the land qua biotic community manifests the relations of interdependency among organisms. Each stratum in the pyramid represents a different trophic level, where the higher rely on the lower in the organization of life. The base layers contain exponentially more individuals than those of higher layers. Following Elton, Leopold stresses the role each species has to play in the systematic interconnection of life. Leopold and Elton, in other words, define any particular species by the life activities of its members and the role these activities have in the constitution of the interconnected system of living beings as a whole. At the bottom of the pyramid are the soil, plants, and microfauna whose metabolizing functions derive either directly from the sun or from their immediate emplacement within a biotic milieu. "Each successive layer depends on those below it for food and often other services, and each in turn furnishes food and services to those above."⁴⁹ Thus, the soil and the plant eating species provide food and services for insect-eating birds and rodents as well as herbivorous and omnivorous mammals. The capstone of this pyramid is thus not humans but rather the pure carnivore. "Man shares an intermediate layer with the bears, raccoons, and squirrels which eat both meat and vegetables."⁵⁰

Leopold proposes in sketching this image to illustrate that land is something far superior to and more valuable than mere property. It is an open system of trophic relations, a fountain of energy. Energy is transmitted up

the layers of the pyramid through food chains and down-circuit by means of death and decay. This biotic image conceptualizes land as a natural household defined by the member organisms' interrelated metabolic relations to the external world and to other organisms. "There are, in fact, chains of animals linked together by food, and all dependent in the long run upon plants," Elton explains in *Animal Ecology*. "We refer to these as 'food-chains' and to all the food-chains in a community as the 'food-cycle,'"⁵¹ The land concept as advanced by Leopold signifies a community of diverse species defined by their trophic behaviors, situated in intricate subsystems of interdependent relations. "This interdependence between the complex structure of the land and its smooth functioning as an energy unit is one of its basic attributes."⁵²

So, land is really a unique "entity"⁵³ according to Leopold. It includes the soils, of course, but also all the microscopic and macroscopic life inhabiting a physical environment. Under this view, the human is just one member species living interdependently and in community with other species. Systemic integrity, stability, and the capacity of the land organism to rebound from perturbation are measures of land health. Land health, itself, defines the norm by which to judge the ethical content of human behaviors and policies. Accordingly, Leopold argues, the human being owes certain duties and obligations to the biotic community above and beyond the needs and duties prescribed by enlightened self-interest. "In short," he says, "a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it."⁵⁴

I aver that there is a salient point of contact in the distinct interpretations of life advanced by Leopold and Jonas. For Jonas and Leopold each understand life fundamentally in terms of metabolic activity. As Jonas says, "The exchange of matter with the environment is not a peripheral activity engaged in by a persistent core: it is the total mode of continuity (self-continuation) of the subject of life itself."⁵⁵ Though the entire material constitution of an organism may undergo transformation, as it in fact does continuously; a self-same ontic core perdures throughout this material transformation. This understanding defines his existential interpretation of biological facts. For Jonas, "there is always the purposiveness of organism as such and its concern in living."⁵⁶ Where the subject of Jonas's investigation is the individual organism, though, Leopold's concern revolves around land, that is, the ecological organism. Thus, I wish to suggest here that Jonas's existential interpretation of biological facts can and ought to be refitted to this land concept. That is to say, I suggest a reinterpretation of Jonas's philosophy of life ecologically. Conversely, I hold that Leopold's ecological land concept can and ought to be understood existentially. I thus propose the idea of an existential ecology. For the existential ecologist, land is an interspecies

community of organisms whose interdependent activities articulate a care-structured environment.

When farmers, for example, work their lands according to the strict task-master of profit motive, their concern typically centers solely on those parts of the organic system that effectively increase yields at the lowest cost. They are of course not ignorant of the metabolic structuring of the biotic community of life on their farms. In point of fact, they put this understanding to work for them. They may therefore purchase the most economically productive fertilizer and feed they can. They may spray pesticides in order to reduce the pest population that is eating away at their crops. They may even plant specifically bioengineered seeds that resist the pesticides they are spraying, all in an effort to kill the insect life eating away at their profits. Their monetary interest remains centered on the useful parts of the organic system that promote the growth of their profits. The insect, plant, and animal life on their farms that are useless to this endeavor are just that: useless.

Leopold asks how this pure economic attitude can be supplemented by or replaced with a deeper ecological attitude. Is there some ground in other words for comprehending land as a biotic community, and, indeed, ourselves as obligated members of this living community? Ironically, Leopold's evolutionary answer remains somewhat ambiguous. "The extension of ethics to this third element in human environment is, if I read the evidence correctly, an evolutionary possibility and an ecological necessity."⁵⁷ However, to this question Jonas has a clear reply.

The observer of life must be prepared by life. In other words, organic existence with its own experience is required of oneself for being able to make that inference, which one does make all the time, and this is the advantage—perennially disowned or slandered in the history of epistemology—of our "having," that is, being, bodies. Thus, we *are* prepared by what we are.⁵⁸

As embodied, worldly beings, we are inherently capable of grasping life as something more than mere physiochemical processes. We can grasp life in terms of a care structure and, indeed, the land as a care-structured environment because we, ourselves, exist bodily. "We have in our self-experience, as it were, peepholes into the inwardness of substance."⁵⁹ Just as we can comprehend the *nisus* of metabolism from the standpoint of our own existence, so we can see the restrictive conception of land to that of mere blind mechanism as much too narrow.

In this proposal to integrate Jonas's philosophy of life with Leopold's ecological philosophy, I wish to offer a new way of looking at the concept of land proffered by Leopold. That is to say, I wish to make explicit what I believe is implicit in Leopold's understanding of the land concept. Rather than conquerors, we can and ought to live in the community of life as plain

members and citizens. The land is, in point of fact, our biotic home. Though this is perhaps not a renegade notion, it is radical and subversive. It is subversive, for it strikes at the heart of the utilitarian conception of land as a mere resource. It is radical, I suggest, since it strikes at the very root of who we are as existing beings.

CONCLUSION

In conclusion, I would like to highlight an interesting point of intersection between this idea of an existential ecology I am proposing and a new conceptual model of adaptation and niche construction developed by the evolutionary biologists F.J. Odling-Smee, K.N. Laland, and M.F. Feldman among others.⁶⁰ Particularly, I would like to turn to the work of Richard Lewontin, Alexander Agassiz Professor of Zoology in the Museum of Comparative Zoology, emeritus, at Harvard University. In his work *The Triple Helix*, Lewontin argues that an illicit dualism exists at the heart of modern neo-Darwinian evolutionary theory. Evolutionary theory, after the modern synthesis, suggests a radical divide between the processes of mutation occurring inside the organism and the environment. Neo-Darwinian theory, in other words, posits a sharp and inviolate divide between biological processes inside the organism and environmental pressures outside it. According to this now standard theory, "organisms adapt to the environment because the external world has acquired its properties independently of the organism, which must adapt or die."⁶¹

We may recall that the Lamarckian theory originally posited that organisms change due to strivings internal to the organism, itself. Lamarck argued that such acquired characteristics could be transmitted and so inherited by the progeny of such individuals. The Lamarckian theory asserts that organisms are, themselves, subjects of evolution. It is this aspect of Lamarck's theory, particularly, that neo-Darwinian theory refutes explicitly.

The Lamarckian theory espouses a transformational principle insofar as each and every member of the species undergoes the same or a similar change. In contrast, Darwin proposed a variational principle, that individual members of the ensemble differ from each other in some properties and that the system evolves by changes in the proportions of the different types. There is a sorting-out process, typically occurring in geologic time, in which some variant types persist while others disappear. The ensemble as a whole changes without any successive changes in the individual members.⁶² Under the Darwinian model, the organism is but an object of evolution. Mutation occurs as an entirely autonomous process inside the organism, distinct from the conditions of selection in nature. It is to this radical and sharp divide between

processes internal to the organism and external environmental pressures that contemporary neo-Lamarckian niche-construction theorists object. "Neo-Darwinism fails to recognize a fundamental cause of evolutionary change, 'niche construction,' by which organisms modify environmental states, and consequently selection pressures, thereby acting as co-directors of their own, and other species', evolution."⁶³

The central point of contention between standard evolutionary and niche-construction theorists concerns the status of the organism in the dynamics of natural selection. To explicate the difference between standard neo-Darwinian evolutionary theory and niche construction more fully, we may recall the debate between preformationism and epigenesis addressed by Kant in *The Critique of Judgment*.⁶⁴ The preformation-epigenesis debate, which took place primarily in eighteenth-century biology, concerned the problem of ontogeny. Kant, of course, proposed a unique middle ground in these debates. While he denied preformation in the typical biological sense, that is, the organism as a physical entity existing preformed in either the sperm or egg, Kant advanced a modified epigenetic account that "minimizes the appeal to the supernatural."⁶⁵ Ironically, this antiquarian debate is relevant today, since neo-Darwinian theory promotes something like a new form of preformationism, or so Lewontin argues. No one, of course, asserts the existence of some sort of homunculus. This would, on the face of it, be absurd. Nevertheless, by positing the strict divide between inner processes of mutation and the external environment, the fertilized egg can be thought to contain "the complete blueprint of the organism and all the information necessary to specify it."⁶⁶ According to this view, the organism remains but a passive object of evolutionary forces.

Lewontin and the niche-construction theorists reject the absolute separation of the inner and outer presupposed in standard neo-Darwinian evolutionary theory. Lewontin argues, rather, that "the internal and the external factors, genes and environment, act upon each other through the medium of the organism."⁶⁷ In the activities of niche construction, which is an activity rooted in the physiology, morphology, and habitus of the organism, individuals, populations, and communities create environmental conditions that favor certain selective tendencies over others. Consequently, organisms in their niche-constructing activities are both cause and product of evolution. Lewontin argues thereby that it is countersense to think of an environment without organisms. As he says, "Niches do not preexist organisms but come into existence as a consequence of the nature of the organisms themselves."⁶⁸ Organisms, by virtue of their life activities, determine their surrounding environment. "As a consequence of the properties of the animal's sense organs, nervous system, metabolism, and shape, there is a spatial and temporal juxtaposition of bits and pieces of the world that process a surrounding

for the organism that is relevant to it.”⁶⁹ In a word, standard evolutionary theory neglects environmental structuring that occurs as a consequence of organisms’ care over their own being as a factor in evolutionary theory. Consequently the standard model of evolution “misses what is more characteristic of the history of life.”⁷⁰

The niche-construction perspective, in contrast, advances a fundamentally ecological insight. In their foundational work, *The Fundamentals of Ecology*, Eugen and Howard Odum argue “the landscape is not just a supply depot but is also the *oikos*—the home—in which we must live.”⁷¹ What I have advanced with the idea of an existentialist ecology is that our human home is one constructed and embedded in the homes of a diverse array of other species. In point of fact, every lived place expresses an interdependent care structure, a concern of life over its own being.

Interpreting biological facts existentially, Hans Jonas shows the organism to be the purposive subject of its own life. Aldo Leopold argues that land itself is an interspecies community of organisms. The human occupies a unique but natural role within this community. The idea of an existential ecology synthesizes these two perspectives. Indeed, extending Jonas’s philosophical monism implies that world-openness is prefigured in the niche-constructing activities of organic beings. This insight implies, further, that human world-building takes place in and amidst the care defined household building activities of the diversity of organisms with whom we coexist. We are, thus, not homeless. Nor should we understand ourselves to be aloof from the natural world. Rather, as embodied entities, we are always already livingly at home in a communalized world.

NOTES

1. John Muir, “Mount Hoffman and Lake Tenaya,” in *My First Summer in the Sierra* (New York, NY: Houghton Mifflin, 1911), 110.

2. Cf. the niche concept as first introduced by Joseph Grinnell, “The Niche-Relationships of the California Thrasher,” *The Auk* 34 (1917): 427–33, esp. 433.

3. Aldo Leopold, *Leopold: A Sand County Almanac & Other Writings on Ecology and Conservation* (New York, NY: Library of America, 2013). All references to Leopold’s writings are from this anthology, hereafter *LSCAOW*, unless otherwise noted.

4. Hans Jonas, *The Gnostic Religion: The Message of the Alien God and the Beginnings of Christianity*. 3rd ed., revised and expanded (Boston, MA: Beacon Press, 1964).

5. Hans Jonas, *The Imperative of Responsibility: In Search of an Ethics or the Technological Age*, translated by Hans Jonas with the collaboration of David Herr (Chicago, IL: University of Chicago Press, 1984).

6. Aldo Leopold, *Round River: From the Journals of Aldo Leopold*, ed. Luna B. Leopold (Oxford: Oxford University Press, 1993).

7. Aldo Leopold, *Game Management* (Madison, WI: University of Wisconsin Press, 1986).

8. Aldo Leopold, *The River of the Mother of God and Other Essays*, eds. Susan L. Flader and J. Baird Callicott (Madison, WI: University of Wisconsin Press, 1992).

9. Aldo Leopold, *A Sand County Almanac and Sketches Here and There* (New York, NY: Oxford University Press, 1949).

10. Ernst Haeckel, *Generelle Morphologie der Organismen. Allgemeine Grundzüge der organischen Formen-Wissenschaft, mechanisch begründet durch die von Charles Darwin reformierte Descendenz-Theorie. Zweiter Band: allgemeine Entwicklungsgeschichte der Organismen* (Berlin: Georg Reimer Verlag, 1866), 286.

11. Hans Jonas, *The Phenomenon of Life: Toward a Philosophical Biology* (New York, NY: Dell Publishing, Inc., 1966).

12. Max Scheler, *Die Stellung des Menschen im Cosmos in Gesammelte Werke Max Schelers, Bd. 9: Späte Schriften*, hrsg. v. Manfred S. Frings (Bern/München: Francke Verlag, 1976), 7–72. Translated by Manfred S. Frings as *The Human Place in the Cosmos* (Evanston, IL: Northwestern University Press, 2009).

13. Leopold, “The Land Ethic,” *LSCAOW*, 173.

14. To be clear, I am not denying that an ecological conception of metabolic exchange is entirely absent in Jonas’s writings. Rather, I hold that the ecological idea remains at best implicit in his philosophy of life. The explication of this idea in his existential analysis requires, I believe, an amplification of the idea of identity central to his philosophy of the organism. I intend to defend this claim in a forthcoming work. For present purposes, I point the reader to the most explicit statement of an ecological conception of life I have been able to uncover. “For encroaching on other life is *eo ipso* given with belonging to the kingdom of life, as each kind lives on others or codetermines their environment, and therefore bare, natural self-preservation of each means perpetual interference with the rest of life’s balance” (Jonas, *The Imperative of Responsibility*, 137).

15. Christian Wiese, ed., *Hans Jonas Memoirs*, translated by Krishna Winston (Waltham, MA: Brandeis University Press, 2008), 198.

16. Jonas, *The Phenomenon of Life*, ix.

17. *Ibid.*

18. Jonas, *The Phenomenon of Life*, 1.

19. Scheler, *The Human Place in the Cosmos*, 39, n11.

20. Scheler, *The Human Place in the Cosmos*, modified 57.

21. Scheler, *The Human Place in the Cosmos*, 55

22. Scheler, *The Human Place in the Cosmos*, 7.

23. Scheler, *The Human Place in the Cosmos*, modified 63.

24. This path is complicated by the fact that any reference to Max Scheler’s work is by and large absent in Jonas’s work. Martin Heidegger’s influence is clear, though. Without eliding over this basic fact, a structural similarity clearly exists between Heidegger’s conception of the organism and Scheler’s. The *Auseinandersetzung* between Heidegger and Jonas offers a distinct, if indirect, influence of Scheler on Jonas.

25. Jonas, *The Phenomenon of Life*, 228.

26. Martin Heidegger, "Letter on Humanism," translated by Frank A. Capuzzi in *Pathmarks*, ed. William McNeill (Cambridge: Cambridge University Press, 1998), 247.

27. Heidegger, Martin. *Die Grundbegriffe der Metaphysik. Welt - Endlichkeit - Einsamkeit* (Wintersemester 1929/30), 3. Auflage, hrsg. v. Friedrich-Wilhelm von Herrmann (Frankfurt am Main: Vittorio Kostermann Verlag), 2004. Translated by William McNeill and Nicholas Walker as *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude* (Bloomington, IN: Indiana University Press, 1995).

28. Scheler, *The Human Place in the Cosmos*, 27.

29. Jonas, *The Phenomenon of Life*, 171.

30. Jonas, *The Phenomenon of Life*, 172.

31. Jonas, *The Phenomenon of Life*, 152.

32. Scheler, *The Human Place in the Cosmos*, 66.

33. Jonas, *The Phenomenon of Life*, 79f (italics mine).

34. Jonas, *The Phenomenon of Life*, xxiii.

35. Jonas, *The Phenomenon of Life*, 3.

36. For absorption of the past into each emerging present, that is, "historicity" as such, even of the briefest span, is the prerequisite of duration. But future is the dominant time-horizon opening before the thrust of life, if *concern* is its primary principle of inwardness. It then also follows that with respect to the organic sphere, the external linear time-pattern of antecedent and sequent, involving the causal dominance of the past, is inadequate: while mere externality is, at least can be presented as, wholly determined by what it was, life is essentially also what it is going to be and just becoming: in its case, the extensive order of past and future is intensively reversed (Jonas, *The Phenomenon of Life*, 86).

37. Scheler argues that plants exhibit teleoclitic or directional leaning relations to biotic or abiotic resistances. These teleoclitic relations account for the vast biodiversity of floral and animal forms. However, he denies any conception of predetermined suitability of the organism to environmental cues characteristic of stronger conceptions of teleology. See Scheler, *The Human Place in the Cosmos*, 10. Unfortunately, Frings translates "*teleoklinen Beziehungen*" as "*purposive relations*" thus obfuscating an important distinction in Scheler's conception of purposiveness.

38. Scheler, *The Human Place in the Cosmos*, 24.

39. Scheler, *The Human Place in the Cosmos*, 9.

40. Jonas, *The Phenomenon of Life*, 4–5 (italics mine).

41. Scheler, *The Human Place in the Cosmos*, 46.

42. Scheler, *The Human Place in the Cosmos*, 53.

43. *Ibid.*

44. Leopold, "The Land Ethic," *LSCAOW*, 181.

45. F.E. Clements, *Plant Succession: An Analysis of the Development of Vegetation*. Publication No. 242 (Washington: Carnegie Institution), 1905.

46. Henry Chandler Cowles, "The Ecological Relations of the Vegetation of the Sand Dunes of Lake Michigan," *Botanical Gazette* 27/2 (1899): 95–117.

47. Charles Elton, *Animal Ecology* (London: Sidgwick and Jackson), 1927.

48. R.L. Lindeman, "The Trophic-Dynamic Aspect of Ecology," *Ecology* 23 (1942): 399–418.
49. Leopold, "The Land Ethic," *LSCAOW*, 180–1.
50. Leopold, "The Land Ethic," *LSCAOW*, 181.
51. Elton, *Animal Ecology*, 56.
52. Leopold, "The Land Ethic," *LSCAOW*, 182.
53. Leopold employs a number of metaphors to describe land, for example, mechanism, organism, pyramid, circuit, or even orchestra. In all these, he represents the biotic community holistically. Consequently, I use the term "entity" here to reflect this holistic understanding underlying the plurality of his expression. Thanks to Curt Meine for bringing me to clarity on this point.
54. Leopold, "The Land Ethic," *LSCAOW*, 173.
55. Jonas, *The Phenomenon of Life*, 76 n13.
56. Jonas, *The Phenomenon of Life*, 90.
57. Leopold, "The Land Ethic," *LSCAOW*, 172.
58. Jonas, *The Phenomenon of Life*, 82.
59. Jonas, *The Phenomenon of Life*, 91.
60. See F.J. Odling-Smee, K.N. Laland, and M.F. Feldman. *Niche Construction: The Neglected Process in Evolution* (New York, NY: Princeton University Press, 2003); Cf. <http://www.nicheconstruction.com/>.
61. Richard Lewontin, *The Triple Helix: Gene, Organism, and Environment* (Cambridge, MA: Harvard University Press, 2002), 43.
62. Richard Lewontin, "The Organism as Subject and Object of Evolution," in *The Dialectical Biologist*, eds. Richard Levins and Richard Lewontin (Cambridge, MA: Harvard University Press, 1985), 86.
63. Laland, Kendal, Brown. "The Niche Construction Perspective: Implications for Evolution and Human Behavior," *Journal of Evolutionary Psychology*, 5 (2007): 51.
64. Immanuel Kant. *Critique of Judgment*, translated by Werner S. Pluhar (Indianapolis, IN: Hackett Publishing Co., 1987).
65. Kant, *Critique of Judgment*, 424.
66. Lewontin, *The Triple Helix*, 6.
67. Lewontin, "The Organism as Subject and Object of Evolution," 89.
68. Lewontin, *The Triple Helix*, 51.
69. Lewontin, *The Triple Helix*, 52.
70. Lewontin, *The Triple Helix*, 67.
71. Eugen P. and Howard T. Odum. *Fundamentals of Ecology*, 3rd ed. (Philadelphia, PA: W.B. Saunders, 1971), 271–72.

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