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Identity, Inwardness, and Vulnerability: The Three Dimensions of Hans Jonas's Philosophy of Life

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Abstract: ***Identity, inwardness, and vulnerability constitute the three fundamental dimensions of Hans Jonas's philosophy of life. Identity reveals the dialectic of the organism—simultaneously dependent on and independent from matter—and establishes an implicit connection between living beings and agency, a link absent in the mechanistic world. Inwardness, through its openness to nature as a whole, demonstrates that ethics does not originate in the autonomous invention of the human subject, but arises instead from the discovery of the organism's intrinsic purposiveness. Vulnerability, for its part, imposes a dual demand: on one hand, it requires us to continuously resist the threat of non-being; on the other, it calls upon us to protect this very vulnerability, guarding against the harm that unbounded developments in biotechnology may inflict upon it. Through an exploration of these three dimensions, this paper aims to provide a deeper theoretical foundation for understanding Jonas's ethics of responsibility.***

Keywords: Hans Jonas, Identity, Inwardness, Vulnerability, Transhumanism.

1. Introduction

How to coexist with nature and how to relate to life remain timeless philosophical questions. The global outbreak of COVID-19 has once again reminded humanity of its vulnerability in the face of nature, prompting many to wonder: "Does the virus constitute a form of retaliation or resistance from a natural life that has been continuously violated [1]?" The fear provoked by such disasters urges us to reflect philosophically on the essence of life and its intrinsic connection with nature. Hans Jonas, one of the most prominent exiled philosophers of the 1930s, offers a valuable framework for such reflection. His unique experiences of exile and war, combined with his life philosophy grounded in a holistic understanding of organisms, provides a significant point of reference for our inquiry.

Although Hans Jonas is best known for The Imperative of Responsibility, he himself regarded "Any discussion of my philosophy should begin…with my efforts to establish a philosophical biology" [2]. For without a precise conceptual grounding of life itself, one cannot fully grasp the meaning of responsibility as articulated by Jonas. In light of this, this paper attempts to interpret and analyze Jonas's philosophy of life—and its ethical implications—through three key dimensions: identity, inwardness, and vulnerability.

First, the paper will clarify how "metabolism", as the foundational phenomenon of life, distinguishes the dynamic identity of living organisms from the inert physical identity of non-living matter. The identity of an organism does not reside in its material composition, but rather in its "form of life".

Second, it will further explain how Darwinian evolutionary theory undermines Cartesian dualism and deconstructs the privileged status traditionally assigned to human beings, thereby extending inwardness—not as an exclusive human attribute—but as a quality inherent throughout nature.

Finally, the paper will demonstrate that the often-overlooked dimension of vulnerability in Jonas's thought carries two interrelated demands: on one hand, it calls for a constant struggle against the threat posed by "non-being", on the other, it summons us to protect this very vulnerability, safeguarding it from the potential harms caused by the unchecked advancement of biotechnology.

2. Metabolism and the Dynamic Identity of Life

Jonas argues that the existence of an organism is not a given state, but rather a constant possibility—one that continuously achieves a dynamic identity through its ongoing metabolism. First and foremost, as entities, organisms exist precisely through their own activity. That is to say, what they do constitutes what they are. "And this in the radical sense that the being they earn from this doing is not a possession they then own in separation from the activity by which it was generated, but is the continuation of that very activity itself, made possible by what it has just performed [3]."

Of course, the organism's self-sustaining activity is not solely determined by internal factors; it also depends on environmental dependency. The organism must maintain its existence through continuous exchange with its environment. Once an organism ceases its activity, it simultaneously ceases to exist. This activity, as Jonas emphasizes, is none other than "metabolism" —the foundational phenomenon of life. Regarding this concept, Lewis Coyne explains: "Metabolism refers to the set of chemical reactions taking place within the organism that serve three different purposes: the anabolic conversion of nutrition into the building blocks of cells, the catabolic breaking down of nutrition and finally the elimination of waste material [4]."

The German term Stoffwechsel aptly captures the meaning of this definition. Stoff signifies "matter" or "material," while wechsel denotes "change," "exchange," or "transformation" — together forming the idea of "material transformation." This process inherently involves the conversion of energy, something clearly absent in inorganic entities such as stones or tables. For such inert objects, mere persistence requires no action—they simply are by virtue of being there. In contrast, an organism can only persist through the ceaseless process of metabolism. Thus, metabolism emerges as the unique hallmark of life.

As a physical entity, an organism initially shares the same characteristics with other aggregates: "a void mostly, crisscrossed by the geometry of forces that emanate from the insular foci of localized elementary being [5]." However, due to the organism's metabolic nature—its continuous exchange of matter with the surrounding environment—the unity of its phenomenon becomes significantly more problematic than that of ordinary physical objects. For the organism is perpetually engaged in a process of material exchange, which entails that "the material parts of which the organism consists at a given instant are to the penetrating observer only temporary, passing contents whose joint material identity does not coincide with the identity of the whole which they enter and leave, and which sustains its own identity by the very act of foreign matter passing through its spatial system, the living form [6]." Thus, Jonas asserts: "It is never the same materially and yet persists as its same self, by not remaining the same matter. Once it really becomes the same with the sameness of its material contents-if any two 'time slices' of it become, as to their individual contents, identical with each other and with the slices between them-it ceases to live; it dies [7]."

It follows that the organism does not lose its wholeness due to the flux of material components; on the contrary, it is precisely through this flux—by virtue of its continuity—that the organism sustains its existence. In this sense, the being of an organism must be described not as a static entity, but as an act or process: the organism continuously reorganizes incoming matter in such a way as to preserve its formal identity and, thereby, its very life.

It can be said that metabolism and the phenomenon of life are co-extensive: wherever there is life, there is metabolism. Although we define metabolism as the exchange of matter between an organism and its environment, a mere description in terms of simple "inflow and outflow" fails to capture the essential nature of living beings. This becomes evident when we compare an engine with an organism. An engine depends on a continuous inflow of fuel and outflow of waste to remain operational—a process that, at first glance, may appear fundamentally analogous to biological metabolism. However, in the case of the engine, the machine's own material components do not participate in the transformations undergone by the substances passing through it: "Their physical identity is clearly a matter apart, affected neither by those interchanges nor by their own ensuing action [8]."

Thus, the engine exhibits only an inert, passive identity; even if the supply of fuel ceases, the machine continues to exist as such. In contrast, the organism, as the ongoing result of metabolic activity, is simultaneously both subject and object of metabolism. This dual role—of being transformed while transforming—is absent in machines. Precisely for this reason, equating organic metabolism with mechanical operation is deeply problematic. Jonas further clarifies: "Metabolism is more than a method of power generation, or, food is more than fuel…Metabolism thus is the constant becoming of the machine itself-and this becoming itself is a performance of the machine: but for such performance there is no analogue in the world of machines [9]." In other words, "once metabolism is understood as not only a device for energy-production, but as the continuous process of self-constitution of the very substance and form of the organism, the machine model breaks down [10]."

Jonas points out: "Self-identity, then, which in dead beings is a merely logical attribute and nothing more than a tautology, is in the case of living beings an ontologically meaningful characteristic, one that is constantly being achieved. The basic freedom of the organism consists accordingly in a certain independence of form vis-a-vis matter [11]." This identity is no longer a simple A = A. We must discover the essence of such identity through the observation of life, rather than through mere physical analysis. Without such internal identity, the self could not endure; it would dissipate along with the flux of matter. Yet, as living beings, we can confidently assert that the organism does not suffer any loss of identity due to the turnover and succession of its material constituents. The organism's identity is, therefore, a dynamic identity.

From the foregoing discussion, we can distinguish the dynamic identity of organisms from the inert physical identity of non-living things. No biologist would consider that one is dealing with a different organism merely because, during metabolism, one substance replaces another in service of sustaining life. This implies that the organism's dynamic identity brings into relief a profound selfhood—marked by an intrinsic unity amid material heterogeneity. That which lies outside the organism is thus perceived as external, as that which stands opposed to the self—the "world". Consequently, the organism maintains its selfhood precisely through interaction with, and resistance against, this heterogeneous and absolutely other "world".

Thus, Jonas states: "Without the universal counterpart of 'otherness,' there would be no 'self.' [12]" The identity—or selfhood—of life demonstrates that a purely mechanical understanding of living beings is profoundly inadequate. The organism's self-integration is an active integration: it generates sameness upon a continuous flow of otherness. In this way, a concept of an ontological individual or subject emerges.

By placing metabolism at the center not only of human existence but of all living organisms, Jonas reveals a deep continuity between humanity and nature. He thereby establishes an implicit connection between living organisms and agency—one that has no counterpart in the mechanistic world.

3. Darwinian Evolution and the Inwardness of Life

Prior to the emergence of modern science, life and soul were ubiquitous; death, as a particular phenomenon, was what required explanation. According to a panpsychic consensus, death was interpreted as a transformation of life—namely, a passage from one form of life to another, merely a special mode of living existence. In this view, death as such was deprived of its ontological reality. However, beginning with the Renaissance, an entirely opposite theoretical situation arose. "Death is the natural thing, life the problem." The paradigmatic entity of modern ontology is a "pure matter, stripped of all features of life," or, in other words, modern ontology amounts to a "ontology of death." Under this

framework, hylozoism was replaced by mechanism as the fundamental conception of nature.

This shift forces us to confront an entirely new question: how is life possible within a world composed purely of inert matter? According to this ontology, life is interpreted in non-vital terms. Modern biology, accordingly, claims to have achieved sufficient understanding of the living organism as a whole through the analysis of its constituent parts and their interactions. Yet, for Jonas, this approach precisely overlooks the organism as a "single, central, indivisible subject of life." He argues that modern biology—operating under the dominance of a death-centered ontology—mistakenly attempts to comprehend the whole organism through the dissection of its parts, thereby conflating the organism with mere biological aggregates or artificial constructs, and ultimately failing to grasp the essence of organic life.

From this transition and opposition between the two ontologies, we can discern the crucial role already played by a Cartesian dualism—one that separates matter from meaning, mechanism from agency, and thus renders life itself an anomaly within the physical world.

After centuries of contention between two forms of monism—manifesting in their more advanced guises as modern materialist monism and modern idealist monism—the advent of Darwinian evolutionary theory appeared to herald the triumph of materialism, while simultaneously dismantling the uniqueness and nobility of human beings that Descartes had underscored through his dualistic distinction between res extensa (extended substance) and res cogitans (thinking substance). For within the framework of dualistic metaphysics, the essence of man or life was separated from mere extension, thereby securing a legitimate place for teleology in nature.

In Darwinian evolution, however, the mental attributes traditionally ascribed to humans are regarded instead as emergent byproducts of organic mutation mechanisms. "Evolution precisely abolished the special position of man…The continuity of descent now established between man and the animal world made it impossible any longer to regard his mind, and mental phenomena as such, as the abrupt ingression of an ontologically foreign principle at just this point of the total flow. [13]" Thus, Jonas observes: evolution "obliterates any vestige of the dividing line on which the whole argument of contrasting 'nature' and 'man' rests. [14]," and "undid Descartes' work more effectively than any metaphysical critique had managed to do [15]."

It must be emphasized, however, that while Darwinian theory disrupted Cartesian dualism, it also thoroughly expelled teleology from the natural world. According to Darwinism, there is no strict demarcation between humans and other organisms; rather, all life unfolds according to a certain order and continuity. This very continuity both differentiates humans from other beings and binds them to the broader biological lineage. As a higher-order being, humanity must be explained through the evolutionary antecedents that made its emergence possible. And since humans and animals belong to the same evolutionary sequence, animal life, to some degree, harbors the precursors of human mental attributes. The direction of evolution is constituted jointly by random variation and natural selection. Lawrence Vogel accordingly remarks: "Darwin's theory of evolution…explains natural history as a wholly mechanistic process in which higher and more complex species result from utterly contingent alterations in lower elements. The official Darwinian view is resolutely antiteleological in holding that life first came into being through spontaneous generation from inorganic matter and evolved by chance through the joint processes of random genetic variation and natural selection [16]."

Nonetheless, we may still observe that Darwinian evolution did succeed, to a significant extent, in bridging the radical dichotomy between extended and thinking substance—a gap that Cartesian dualism had posited as insurmountable. By embedding human mentality within a continuous biological development, evolution challenged the metaphysical separation of mind and nature, offering instead a unified, albeit non-teleological, account of life's ascent.

We know that both Aristotle and, later, the Swedish naturalist Carl Linnaeus were clearly aware of the kinship between humans and animals. Aristotle's definition of "man as the rational animal", for instance, most explicitly attests to this recognition. If the affinity between humans and animals was thus not Darwin's unique invention, why then did Darwinian theory produce such a profound cultural upheaval?

In Jonas's view, it is because Darwinian evolution introduced an all-encompassing monism—mechanistic in nature and devoid of purpose—that finally destroyed the last earthly refuge of transcendence. The absolute chasm previously established between human beings and animals, and between humanity and nature, by the creation narrative of Judaism, the rational metaphysics of ancient Greece, and the transcendental doctrines of Christianity, was now definitively closed.

Yet, "the correction of one extreme can easily lead to the opposite extreme. The new monistic one-sidedness threatens to leave us with an impoverished self-image that will obscure valuable insights afforded by the rightly supplanted dualism [17]." Jonas reminds us: "In the hue and cry over the indignity done to man's metaphysical status in the doctrine of his animal descent, it was overlooked that by the same token some dignity had been restored to the realm of life as a whole. If man was the relative of animals, then animals were the relatives of man and in degrees bearers of that inwardness of which man, the most advanced of their kin, is conscious in himself [18]." The genealogical continuity between humans and animals means that Darwinian evolution faces criticism for neglecting the distinctive mental attributes of human beings. Yet, in Jonas's view, this very point harbors an alternative possibility: the relationship described by Darwinian theory between human beings and the rest of nature reveals a new significance. On the basis of a holistic monism, it suggests that the Darwinian revolution — commonly regarded as the final triumph of mechanistic biology—actually plays a crucial role in overcoming materialism. As Michael Hauskeller observes: "From the perspective of the modern materialist worldview this continuity plainly shows that there is nothing special about being human, that we are nothing but biological machines, just like any other living being. Thus Darwinism strips us of

our dignity. Jonas, however, draws the opposite conclusion: far from taking dignity away from us, the fact of evolution gives dignity back to nature [19]."

Through the foregoing examination, we can discern that Cartesian dualism effectively excluded the concept of immanent teleology from nature. Any view that regards nature as possessing intrinsic finality or purposiveness is deemed a betrayal of modern science—an unwarranted projection of human subjective characteristics onto the natural world. In other words, capacities for purpose and thought are held to manifest exclusively within the human realm, while the non-human domain is seen as consisting solely of lifeless matter in motion. A strict dichotomy thus separates the human from the non-human, and any attempt to attribute human-like qualities to non-human entities is dismissed by modern science as illegitimate anthropomorphism.

Yet, in Jonas's view, we cannot simply apply the paradigm of inert matter or mechanics to living organisms. Life is not merely the sum of molecular interactions; nor can the wholeness of the organism be reduced to the aggregate of its constituent parts. Concepts such as subjectivity and inwardness, though neglected by the quantitative methods of modern science, remain indispensable for understanding the essence of organic life. Organisms must be recognized not as mere mechanisms, but as centers of concern and self-maintenance—beings for whom things matter, and whose very being embodies an inherent purposiveness directed toward continued existence.

With the aid of Darwinian evolutionary theory, Jonas seeks to rehabilitate the categories of teleology and inwardness — concepts that have been expelled by modern science—and thereby to rediscover a truer understanding of nature. The continuity revealed by evolution between non-human and human organisms can "help us understand organic entities and thus restore life's psychophysical unity to its place in the theoretical totality, lost on account of the divorce of the mental and the material since the time of Descartes [20]."

For Jonas, the most basic metabolism carried out by plants, as well as the activities of striving for survival performed by animals through higher functions such as motility, perception, and emotion, are all manifestations of inwardness. That is to say, inwardness is a feature inherent to all living organisms — including both plants and animals—and constitutes their shared characteristic. We may thus observe that Darwinian evolution offers us a renewed possibility for understanding the phenomenon of life, one that transcends mechanistic reductionism and reopens the path toward a more adequate ontology of living beings.

4. Death and the Vulnerability of Life

We have previously discussed the dimensions of identity and inwardness in Jonas's philosophy of life. If the identity of life responds to the question, "What does it mean to be a living individual?", then the inwardness of life answers the question, "What does it mean to exist as a living being?" Both dimensions, significantly, are grounded in the essential characteristic of organisms: metabolism. Only a being that is mortal—one that continuously undergoes metabolism and will eventually cease to do so—can be recognized as a living organism. This mortality, in turn, introduces the third dimension of Jonas's philosophy of life: the vulnerability of life.

Jonas argues that all life is mortal, and thus death is coextensive with life as one of its fundamental attributes. In other words, life inherently carries death within itself. As we have seen in the discussion of dynamic identity, if over an extended period the constituents of an organism were to remain entirely unchanged, this would precisely indicate that the organism has ceased to live. Indeed, both the identity and the inwardness of life depend on the organism's constant effort to sustain itself against the threat of non-being—that is, against the inherent vulnerability of life.

But how are we to understand this very act of resistance? And more fundamentally, how should we conceive the limits of resisting death? "Is the indefinite prolongation of life a legitimate goal of medicine?" This question has been thrown into sharp relief by the rise of transhumanist ideology. In this section, therefore, we will examine Jonas's conception of life's vulnerability in dialogue with the positions put forth by transhumanism.

The term transhumanism was originally coined by the evolutionary biologist Julian Huxley, referring to a belief in humanity's capacity to transcend itself. However, this belief suffered a profound setback in the aftermath of the Second World War. After being further elaborated through the imaginative visions of science fiction writers such as Arthur C. Clarke and Robert A. Heinlein, the concept was first given a relatively comprehensive philosophical definition in the late 1980s by philosopher Max More. He defined transhumanism as "a class of philosophies that seek to guide us towards a posthuman condition. Transhumanism shares many elements of humanism, including a respect for reason and science, a commitment to progress, and a valuing of human (or transhuman) existence in this life rather than in some supernatural 'afterlife'. Transhumanism differs from humanism in recognizing and anticipating the radical alterations in the nature and possibilities of our lives resulting from various sciences and technologies such as neuroscience and neuropharmacology, life extension, nanotechnology, artificial ultra intelligence, and space habitation, combined with a rational philosophy and value system [21]."

From this definition, it is evident that transhumanism articulates a radically new vision of humanity—one that seeks to achieve dual enhancement of bodily and mental capacities through the convergence of biotechnology, neuroscience, genomics, and other advanced sciences. Its aims include combating disease, extending lifespan, and even gaining control over desires and emotional states. For technological determinists, the realization of this vision would inaugurate a new epoch in human history. Through enhancement, humanity would transition into a posthuman era, in which vulnerability no longer constrains human development.

Given Jonas's account of organisms as constantly threatened by non-being and thus compelled to engage in ceaseless efforts to sustain life, one might be tempted to interpret his thought as implicitly endorsing a transhumanist stance. From

the transhumanist perspective, technological enhancement could render humans more rational, freer, and even more morally capable. Only such a perfected being, it might be argued, could effectively fulfill Jonas's imperative of responsibility: "Act so that the effects of your action are compatible with the permanence of genuine human life [22]." In the posthuman age, afflictions such as illness, moral failure, and even death would no longer be sources of concern. This view is undoubtedly compelling, appearing to supply a practical dimension that may seem underdeveloped in Jonas's philosophy, thereby rendering his framework seemingly more complete.

Yet, one must bear ethical responsibility for the social applications of any technology, and when we consider Jonas's emphasis on mortality and the essential vulnerability of life, it becomes clear that the transhumanist position fundamentally contradicts the core tenets of his philosophy.

We can observe that, in transhumanist thinking, the extension of life appears to be pursued for its own sake—focused solely on prolonging lifespan—while dimensions such as the breadth of life, the meaning of life, and the purpose of life seem profoundly neglected. Yet these are precisely the most essential aspects of human existence. The vulnerability of living organisms, far from being a mere defect, actually underscores the preciousness of life. As a verse from the Psalms repeatedly cited in Jonas's writings reminds us: "Teach us to number our days, that we may gain a heart of wisdom [23]." Without the presence of an anticipated death, our experience of life would be significantly impoverished. It is precisely our awareness of mortality and finitude that renders life deeper and richer, compelling us to imbue our finite span with greater weight and significance.

Jonas emphasizes that transhumanism overlooks the vital role of death and birth in shaping the structure and meaning of human existence. Consider a society in which everyone lives indefinitely—a world into which no new life enters, where individuals remain perpetually immersed in pleasure, devoid of the vitality, ambition, and passionate striving characteristic of youth within a finite lifetime. Such a society, bereft of death, would also lose renewal; it would be trapped in repetitive inertia, lacking fresh perspectives on the world. As Jonas puts it: "if we abolish death, we must abolish procreation as well, for the latter is life's answer to the former, and so we would have a world of old age with no youth, and of known individuals with no surprises of such that had never been before [24]."

Drawing upon Arendt's concept of natality, Jonas further argues that natality "grants us the eternally renewed promise of the freshness, immediacy, and eagerness of youth, together with the supply of otherness as such. There is no substitute for this in the greater accumulation of prolonged experience [25]."

Transhumanists seek to mold humanity in the image of "God"—by imagining, without limit, the fundamental fusion of humans and intelligent machines, thereby achieving infinity and completely erasing the boundary between human and divine, a distinction that even Moses was required to respect. Regardless of individual transhumanists' personal beliefs, the idea of "God" functions as the ultimate ideal toward which human transformation is directed. Underlying this vision is the assumption that human finitude, mortality, and vulnerability are fundamental deficiencies—defects to be overcome through technology in the pursuit of infinite capacity, immortality, and stability. Yet this represents a profound limitation of perspective.

From Jonas's standpoint, we can see that these traits are not true limitations at all, but rather constitutive elements of human completeness. It is precisely through them that life becomes genuinely life. As Jonas repeatedly insists: if the length of life, rather than its meaning, were the decisive criterion, then there would be no need for life to exist at all—since inorganic matter possesses a far longer "lifespan".

At its core, the transhumanist pursuit of endless life through human enhancement stems from the way transhumanists experience their organic existence as a kind of affliction. Features such as mortality, vulnerability, and other fundamental aspects of the human condition are regarded by transhumanism not as constitutive traits but as defects to be overcome. Only the thinking entity—the mind—is seen as the true self; all else must be liberated from the prison of material nature. In this sense, transhumanism represents the most recent manifestation of what can be understood as a modern gnostic tendency.

Human imperfection, as Günther Anders has argued, gives rise to what he calls "Promethean shame" —the sense of inadequacy experienced by modern humans in the face of perfect machines. Transhumanism seeks precisely to overcome this shame by eliminating human imperfection and transcending biological vulnerability, ultimately transforming the human into a machine.

Actually, we may observe that while Jonas continually emphasizes the necessity of struggling against vulnerability in order to sustain existence, he simultaneously holds vulnerability in high regard. For Jonas, human vulnerability is not merely a burden but a source of profound possibility. It is precisely through our finitude and fragility that new horizons for development and meaning emerge. Conversely, although transhumanists relentlessly strive to escape human vulnerability, the consequences of such attempts may prove counterproductive. Due to their inherent vulnerability, human beings are especially susceptible to the influence of medical technologies and technological power. The interventions promoted by transhumanism may, rather than enhancing human life, ultimately lead to its erosion or even annihilation [26].

In Jonas's view, vulnerability is thus something that is both fearsome and worthy of appreciation. On one hand, we must continuously resist the threat of non-being to preserve our existence; on the other, we must also be grateful for vulnerability, for it is precisely this fragility that opens up space for future possibilities. Moreover, the vulnerability of life calls upon us to take responsibility—to safeguard the very essence of life. Thus, we might say that, to a significant extent, vulnerability becomes a phenomenon intrinsically tied to morality.

Through an examination of Jonas's philosophy of life, we see that the identity of living beings is not reducible to the mere sum of their material components. Rather, it is a transcendent identity, a dynamic identity—one that exceeds physical composition. Within this dynamic identity lies the potential for freedom, establishing an implicit connection between living organisms and agency—a link absent in the mechanistic world. The emphasis on inwardness restores teleology to nature as a whole, indicating that ethics does not arise merely from subjective invention, but is discovered within the very structure of organic being.

Vulnerability, meanwhile, demands a twofold response: first, an ongoing struggle against the ever-present threat of dissolution; second, a moral summons to protect and respect this very vulnerability. It is through this dual demand that responsibility arises. We can thus conclude that identity, inwardness, and vulnerability—each in their own dimension—enrich and deepen our understanding of Jonas's philosophy of life. Together, they provide a robust theoretical foundation for an ethics oriented toward responsibility for both the future of humanity and the natural world.

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