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The Intrinsic Structure of Reality: Ontology and Deep Ecology

Charles List

One of the central tenets in the works of Paul Shepard is that there is a way the world is, independent of human constructions, a way we must first discover and then recognize and embrace if we are to escape the destructive path he argues we are on. His continuing worries about undecidable ideological and political conflicts detailed in "Radical Politics" are motivated by what he perceives as the unwillingness in academic and environmentalist circles to accept this fundamental realism. There are two kinds of philosophical realism: that which opposes nominalism by asserting the reality of universals and that which opposes idealism by asserting the reality of material objects. Shepard, I believe, endorses what has been called a "scientific realism" which asserts, as Brian Ellis puts it, that "science really is in the business of stripping reality of appearances in order to discover the hidden causes of things, and that science has, in fact, successfully revealed a great deal about the underlying structure of reality."[1]

In "Radical Politics" Shepard posits realism concerning the hidden causes of things as a necessary antidote to the untenable state of affairs in which environmental issues and problems, such as the "impact of the human population, the existence of other species, the menacing of soil, water, and forests, the use of watersheds, the energy and nutrient systems, the air itself" become the subjects for lobbying and political wrangling with no objective way to resolve them. He continues:

> Each of these becomes an issue in which coalitions of social groups rise and fall, working out their compromises on the shared assumption that the world has no intrinsic structure, few givens, but rather an order projected upon it by humans that creates coherence.[2]

But if the world does have an intrinsic structure, what is it? Why is it intrinsic and what are the fundamental categories comprising this structure? In what follows, I shall offer an ontological sketch that fills out and makes coherent the "intrinsic structure" of reality demanded by

[1] Brian Ellis, *The Philosophy of Nature: A Guide to the New Essentialism* (Montreal: McGill-Queen's University Press, 2002), 23-24.

[2] Paul Shepard, "Radical Politics," *The Trumpeter* 31, no. 2 (2015): 92.

Shepard in "Radical Politics." Once this sketch is in place, it will allow us to understand, on the one hand, why Shepard calls for "compliance with the truly radical Other: the constraints and obligations of the biological reality of ecosystem and planetary communities composed of Beings."[3] These constraints are imposed by the world on human thought and not by humans on the world. On the other hand, I hope to show that this ontology is not as "deep" as some deep ecologists make it out to be.[4] That is, I will argue that the ontology I sketch has the virtues of being consistent both with Shepard's thoughts and with a fairly standard view in the philosophy of biology.

ONTOLOGY

The intrinsic structure of reality as envisioned by Shepard has, I believe, two foundational supports. An early indication of the first of these is found in the 1959 paper "A Theory of the Value of Hunting."

> The condemnation of killing wild animals for sport extends from some very provincial and anthropocentric premises. It is only a biased opinion that death is the worst of natural events. It is part of the naive assumption that order in nature is epitomized by living objects rather than complex flow patterns of which objects are temporary formations.[5]

He elaborates these flow patterns as the "complicated cycles of elements, in the sweep of evolution, and in the patterns of the flow of energy."[6] So the order in nature also includes, besides the organisms, the flow patterns between these organisms. This heightened awareness of energy cycles in addition to organisms remains constant throughout Shepard's works. More than 30 years later in his 1992 paper "A Post-Historic Primitivism" he writes: "The great metaphysical discovery by the cynegetic world was cyclicity. It emerged in the context of the rites of death, both human and animal, as part of this flow."[7] The cynegetic world of hunters and gatherers, Shepard believes, had things metaphysically right, and much of his work is

[3] Ibid.

[4] An example of this deepening is found in Frederic Bender, "On the Importance of Paul Shepard's Call for Post-Historic Primitivism and Paleolithic Counter-Revolution against Modernity," *The Trumpeter* 23, no. 3 (2007): 2–25.

[5] Paul Shepard, "A Theory of the Value of Hunting," *Transactions of the North American Wildlife Conference* (1959): 504–12.

[6] Ibid., 509.

[7] Paul Shepard, "A Post-Historic Primitivism," in *The Wilderness Condition: Essays on Environment and Civilization*, ed. Max Oelschlaeger (San Francisco: Sierra Club Books, 1992), 40–89.

dedicated to detailing this world and its implications for us. If the world, and in particular its ecosystems have an intrinsic structure, as Shepard clearly believes, we need also to find out what the units of this structure are as well as understanding their relations to the patterns of energy flow. Into and out of what is this energy flowing? The second ontological foundation for Shepard's intrinsic structure of ecosystems are not merely those provincial and typical "living objects" or individual organisms but rather the species into which they are grouped. These species, I think, must be the members of those "planetary communities composed of Beings" mentioned above. The ontological status of biological species is a matter of extensive contemporary debate.[8] Given this debate, one of Shepard's comments relevant to the status of species points us in two incompatible directions. He says, "Our hunting past tells us that the species is the 'individual,' each animal the occasion of the species' 'soul.'"[9] And while current and past philosophical debates concerning the ontological status of biological species may not have motivated Shepard's poetic historical comment, it does nicely frame a crucial ontological choice. There are important differences between understanding species as *individuals* or alternatively as *having souls* and which path one takes has implications regarding the metaphysics one attributes to Shepard.

One way to interpret Shepard's comment that species have a "soul" is that they have an "essence" or that they are, in contemporary parlance, natural kinds. Objects belong to natural kinds in virtue of their all having an identical property that determines their membership in that kind and which explains other properties of the species. This belief, dating back to at least Aristotle, has been roundly rejected by many contemporary scientists and philosophers of biology. Aristotle, for example, says humans are essentially rational animals, where rational is the individuating essence and animal is the genus. Some contemporary essentialist philosophers of science argue that chemical elements such as copper are natural kinds like this: anything without that essential atomic number cannot be copper, and it is this essence that explains its powers and propensities.[10] On this essentialist view, applied to organic species, bald eagles would form a natural kind the members of which all have an essential property in common, on analogy with the atomic number of copper. This essentialist view of organic species, however, faces several daunting questions: first, since species evolve, there is a

[8] Ereshefsky, "Species (Stanford Encyclopedia of Philosophy)," accessed June 26, 2015, http://plato.stanford.edu/entries/species/.

[9] Ibid., 75.

[10] Ellis, *The Philosophy of Nature*.

continuous lineage linking bald eagles and golden eagles to a common ancestor. And this ancestor species itself is in a continuous line to even earlier species. So, at what point did eagles acquire their essence? Any answer to this question seems arbitrary, based upon *our* determinations and not those present essentially in nature. Second, the members of a species are never identical at any given time; they vary in many ways, including genetically. So in virtue of what identical property do they have the same essence? Again, the line we draw around species seems to be determined by us, something Shepard clearly rejects in "Radical Politics."[11]

So here we face a choice for understanding the intrinsic structure Shepard demands to resolve political mythmaking. Should we stick with the problematic species essentialism, or take the other path hinted at by his saying species are individuals? I shall recommend the latter course. To view species as individuals is to conceive them as analogous to individual organisms. Individuals on this view have parts that must be structured in certain ways for the organism to continue to exist. For instance, an organism's respiration and reproductive abilities require that those parts function as part of the whole or the organism would fail to breathe or reproduce. Whereas individuals and species are restricted by spatial and temporal limits, members of essential natural kinds are not so restricted. Copper is an essential natural kind because no matter where or when bits of copper are found in the universe, they have the same atomic number and therefore the same capacities and powers. But organic species as individuals are restricted. An eagle is an individual because its parts are casually connected allowing for flight, the capture of fish, reproduction, and so on. Analogously, species are individuals in that they have parts that are organisms, spatio-temporally clustered together by virtue of their being causally connected to other members of the species determined by their evolution. So for example, bald eagles are an individual species because the organisms are connected by their evolutionary lineage and, importantly, by their connections with other species in their ecosystem Eagles have the lineage they have because of their evolutionary history. So, on this view, species are still real things, the basic units of evolution, but they do not have essences.

So, if we can take "species are individuals" as one foundation of Shepard's ontology, we are then able to turn to the other foundational support for the intrinsic structure of the biological world: the "complicated cycles and flow patterns of energy" so prominent in his thought. How one understands these flow patterns depends crucially on one's conception of species. The issue here is what to make of Shepard's clearly stated belief in the priority of these flow

[11] Cf. Ibid., 154 and Marc Ereshefsky, "What's Wrong with the New Biological Essentialism," *Philosophy of Science* 77, no. 5 (December 2010): 674–85.

patterns. We again face at least two possible choices. First, the flows of energy could be of prior *explanatory* importance, that is, they will be used to understand the structure of ecosystems and the species that are their components. Second, and more radically, the energy flow patterns could be taken as *ontologically* prior in that they are more *real* than the organisms that are the temporary loci of the energy.

HOW DEEP?

This issue of the priority of energy flows is closely tied to Shepard's frequent inclusion in the deep ecology movement.[12] While undoubtedly Shepard's politics and policy proposals are so aligned, it is not so clear that his ontology is. J. Baird Callicott places Shepard with Arne Naess as a deep ecologist in virtue of their presumed agreement on a fundamental metaphysical belief that "organisms are knots in the biospherical net of intrinsic relations," as Naess says.[13] Knots obviously can't exist without the ropes out of which they are tied. Given this picture, organisms are dependent for their existence on the net of intrinsic relations. And if these intrinsic relations are flows of energy, organisms are dependent upon energy for their existence. But put this way this seems just common sense: of course an organism would die if it didn't get energy in some form. Callicott, however, draws from this the implication that for deep ecologists, "energy seems to be a more fundamental and primitive reality than…organisms."[14] He then characterizes Shepard's view as follows:

> "Shepard, thus ... suggested that an object ontology is inappropriate to an ecological description of the natural environment. Living natural objects should be regarded as *ontologically subordinate* to 'events' and/or 'flow patterns' and/or 'field patterns.'"[15]

So Callicott argues Shepard's metaphysics is included in deep ecology based on the ontological priority of energy flows. And this object ontology certainly would be rejected by Shepard if species were conceived as individuals every bit as real as their members. But, does it really follow from the rejection of a reductionist ontology of objects that organisms are less real than energy flows? Consider an alternative account of energy priority. Suppose species are

[12] See, for example, George Sessions, "Paul Shepard: Ecological Elder," in *The Company of Others: Essays in Celebration of Paul Shepard*, ed. Max Oelschlaeger (Durango, Colorado: Kivaki Press, 1995), 75-99.

[13] J. Baird Callicott, "The Metaphysical Implications of Ecology," *Environmental Ethics* 8, no. Winter (1986): 310.

[14] Ibid.

[15] Ibid., 309 (emphasis added).

individuals. They are every bit as real as their members. Further, membership by organisms in species is accounted for by their evolutionary paths. David Wilson, for example, observes that some very different kinds of species, e.g. certain kinds of snails, seeds, and beetles, all have evolved ever-harder shells. Since the shells of these organisms are all made of different materials, the best explanation of this fact seems to be that in each case predation is driving the process.[16] This "top down" explanation certainly puts methodological emphasis on one kind of energy flow, namely, the kind in which energy is transferred from prey to predator, from eaten to eater. But in this case there is no temptation to say that the energy is more *real* than the organisms, only that energy flows are crucial in understanding the way species change. Perhaps Shepard is simply expressing a preference for such top down explanations. So, it does not necessarily follow from the methodological priority of energy that organisms are ontologically *less* real than either their species or the relations between species.

Given the alternative ontology sketched above, Shepard can agree that relations and processes regarding energy are of great methodological and *explanatory* importance in understanding ecosystems without agreeing with Callicott and Naess that organisms are "*ontologically* subordinate" to these. That is, organisms are not as important methodologically as the energy relations between species in explaining and describing ecosystems—they are "knots" if you like, they do not "epitomize nature"—but they are the parts of species, every bit as real as the species itself. The parts of an organism such as its heart are no less real than the organism, so the parts of a species-individual are no less real than the species.[17]

To return to "Radical Politics," Shepard is concerned with an ideological "myth" that denies that the world has an intrinsic structure. He says this:

> The ideological myth presupposes a definition of being, which is at odds with modern ecological and ethnological understanding, hence those sciences are seen as subversive and often in tandem with feminist concerns, sharing an organismic and intuitive core.[18]

The "definition of being" proposed by this myth is of human-created coherence in nature. However, there is another kind of myth making, which also is at odds with modern ecological understanding. This myth would have us believe the intrinsic structure of the world is a structure of essences, where energy flows are more real than organisms. A monistic myth—

[16] David Sloan Wilson, "Holism and Reductionism in Evolutionary Ecology," *Oikos* 53, no. 2 (1988): 269–73.

[17] See Charles List, "An Ontology for the Land Ethic," *Environmental Ethics*, forthcoming.

[18] Shepard, "Radical Politics," 92.

where energy is the only thing that is real—motivates Callicott to include Shepard in the metaphysics of the deep ecologists. A similar interpretive stance is taken by Frederic Bender when he invokes a Spinozian "immanent Divine Process" to account for the essential structure of the web of life.[19] And Michael Cohen discussing ecology as a subversive science says that "...some have proposed a theory and practice of 'ecocriticism,' which seems to be attempting to say that ...there is some essential or primary order of nature called 'ecology' which we can know..."[20] The ontological alternative I have sketched is not so at odds with the practice of contemporary ecology.

Given the non-essentialist view of species and the methodological rather than ontological priority of energy, the core belief Shepard defends in "Radical Politics" is retained: the world has an intrinsic structure underlying various competing ideologies. This world consists of species and their evolved relations, these being methodologically primary in scientific explanation. However, the burden of monistic essentialism is removed and to that extent Shepard's ontology is lifted from the deep.

[19] Bender, "Shepard's Call for Primitivism and Counter-Revolution," 19.

[20] Michael Cohen, "The Fate of the Subversive Science," in *The Company of Others*, 165.