

BOOK REVIEW

The Orders of Nature. By Lawrence Cahoon. Albany: SUNY Press, 2013. Pp. xii + 375.

Lawrence Cahoon offers a carefully designed variety of naturalism as a satisfactory metaphilosophy. Any naturalism requires knowledge of nature, and lots of it. Most of *The Orders of Nature* recites knowledge of natural histories, laws, processes, organisms, and social complexes. Cahoon skillfully organizes vast amounts of scientific knowledge and human know-how, and shows where they relate to each other in a manner reminiscent of Big History. The bulk of the book proceeds from the knowledge of physics and cosmology on to the knowledge of evolution, human origins, and culture, inclusive of how we know modern science itself. Each chapter is written at the level of an introductory college text and could be followed by anyone capable of benefiting from a typical article in *Scientific American*. Four preliminary chapters outline the general kind of naturalism recommended by Cahoon over rival naturalisms and a few nonnaturalisms. Two final chapters offer some philosophical speculations about his naturalism's treatment of the metaphysical search for a ground of being and the religious quest for axiology.

Cahoon's intellectual debts are mainly to the ordinal naturalism of Justus Buchler, the pragmatic naturalism of the Columbia University school inspired by John Dewey, and the pantheistic tendencies of process philosophy going back to Alfred North Whitehead. Unlike exegetical treatises, however, this book directly argues for its naturalistic theses, with the primary aim of persuading those who respect science and dislike dualisms and supernaturalisms. The overall effect is not merely of a comprehensive survey of human knowledge of what is but also of a coherent and internally consistent survey. Nothing about what is known or how it can be known is supposed to fall outside the naturalistic system presented here; no extra ingredients must be added to fully explain how we experience what we experience and how we learn what we learn.

Defending naturalism philosophically involves, among several core tasks, justifying that we comprehend nature better than anything else. Nonnaturalisms try to justify their opposed positions by first declaring what shall count as natural, then announcing how something not counting as natural is nonetheless comprehended, and finally concluding with the verdict that naturalism must be incomplete. Few nonnaturalisms realize how odd that first step must be—why would a nonnaturalism possess sufficient expertise for knowing best what shall and shall not count as natural? Naïve nonnaturalisms brazenly borrow their conception of the natural from staunch naturalists. Select a school of naturalism, examine what gets omitted from that naturalism's list of ontologically real items,

pick one or two of those omitted matters, announce how people can actually comprehend those matters without any naturalist assistance, and conclude with the verdict that naturalism stands refuted. This tactic is so common among nonnaturalisms because it is too easy.

Cahoone's naturalism isn't vulnerable to this tactic. It isn't premised on some prefixed itemization of natural entities, in the first place. No physicalist inventory of fundamental things satisfies Cahoone; no scientific reductionism tempts him; and no armchair meditation into the "essence" of the natural entrances him. In the second place, nothing that could be reliably comprehended eludes his conception of nature. Sophisticated nonnaturalisms drop ontological inventories and instead ask about methodological preferences. Similar tactics ensue. After declaring that naturalism must rely on a specific set of methodologies for determining what can be encountered and explained, a nonnaturalism can next uphold some other method that apparently yields valuable results, and then finally judge that naturalism is unjustly narrow in its vision. But Cahoone's naturalism isn't vulnerable here, either. No narrow preference for empiricism, logicism, or scientism constricts his naturalism; no *a priori* frame his epistemology; and no ontological prioritizations warp his metaphysics. Although science impressively explores many realms of the natural, Cahoone's nature isn't limited to what may be scientifically knowable. Nor are limitations to be set for his naturalism by exclusivist methodologies, necessary first principles, or quests for what must count as more real.

By rejecting the exclusive privileging of any mode of human experience and learning, refusing to endorse any prioritizations of some things as more real or more fundamental, and expressly rejecting any attempt to comprehend the Whole or the Ultimate as a unity, Cahoone's naturalism can be all-encompassing in a thoroughly pluralistic rather than monistic manner. His criteria for inclusion isn't essentialist; Cahoone only requires relevance, and the more relevance, the better. The endeavors having the most relevance for thoughtful beings like us do deserve greater respect, he judges, so his pluralism is decidedly "democratic" in spirit rather than aristocratic or dictatorial. That some social group or another finds some peculiar mode of experiential activity to be extremely important guarantees that Cahoone's naturalism accords it a due place. If that mode must remain inaccessible to any wider circle of intelligent beings, however, then it garners no privileges and cannot overrule as invalid any rival modes. Relevance has its rewards, and its privileges.

Although the sciences (which can cohere) together enjoy the widest relevance for all humanity, a relevance even wider than religions (which haven't cohered), science receives no guaranteed supremacy. Cahoone's naturalism, it must be emphasized, isn't an aloof judge bestowing epistemic certifications. Relevance has its responsibilities. Each mode of human activity, and especially each technique of knowing, must prove itself by its own methodical capacity for relevance.

That is why Cahoone's naturalism doesn't prioritize philosophical justifications for scientific knowledge or methods. There is little defense of

scientific realism to be found here. Cahoone's naturalism doesn't need a "first philosophy" or an independent epistemology to discern how well science knows reality. Two main reasons stand behind this. First, unless the actual successes of scientific explorations and explanations can sufficiently justify scientific methods, nothing else can. Cahoone shows no sympathy for any naturalism that tries to abstractly justify scientific methods quite apart from how those methods are concretely used to yield reliable explanations. Second, any philosophical attempt to stand outside science, apply nonscientific methods to discriminate what is real, and then ask how well science approaches that reality, isn't a procedure compatible with postmedieval culture. It has been fashionable to be postmodern by denying exclusive knowledge to science (science does have its fallibilities and limitations), but trying to delimit science with necessary truths describing the most real is only premodern.

Not only would no purely philosophical justification for scientific knowledge have a role in Cahoone's naturalism, there's no need for any abstract justification for any mode of human experience or understanding whatsoever. This naturalism isn't about figuring out which sorts of experience or modes of engagement are legitimate and which aren't, and it isn't about assigning higher validities to special experiences or endeavors. Cahoone's nature expressly encompasses anything and everything that can be discriminated and taken seriously. When the clever metaphysician or theologian brings up something that cannot be discriminated, or has a status more fundamental than being real, such matters cannot manage to fall outside Cahoone's nature. An apophatic negation of all discriminations is still a discrimination (even if it must be inarticulate), so there's no peculiar problem with proposing aspects to nature extending that far. As for asserting categories that surpass "existence," "being," "reality," and so on, Cahoone's naturalism plays no semantic games. If there's a serious need to reliably discriminate some matters beyond currently available ontological categories, then any Urgrund or Arche, anything transcendent, mystical, or immanent, is something fitting most comfortably alongside everything else that is natural.

Cahoone's naturalism is about what "matters," not about what counts as "matter." This is not yet another rigid ontology. For those unfamiliar with metaphilosophies as generous and capacious as those of, say, Charles Peirce, George Santayana, A. N. Whitehead, and Justus Buchler, some additional explanation is in order. If it matters in some way, then it counts in Cahoone's naturalism, and it cannot be placed utterly beyond nature. Cahoone only demands that whatever is getting discriminated, it has to matter, somehow and somewhere. In the absence of discrimination (any sort of distinction from all else) and mattering (any interest in noting it), then Cahoone's metaphilosophy is under no obligation to take it seriously. But then again, no other worldview or metaphilosophy or theology is under any obligation to recognize the utterly indiscriminate and irrelevant, either. As a result, there's no way to point out where Cahoone's naturalism falls short. Any cognitive/affective act of indicating something

potentially left out of account by this naturalism by definition has just guaranteed its automatic inclusion. The test isn't whether Cahoon has already thought to include it—the test is whether you did. If you take it seriously at all, his metaphilosophy extends its natural adoption. If you dislike the label “nature,” he wouldn't object, since metaphilosophies shouldn't be about labels but be about what is taken to matter. After you figure out what should seriously matter, you'll be able to tell how it fits within his nature. And any maximally capacious metaphilosophy about what matters, by whatever designation, will simply coincide with Cahoon's.

Cahoon's nature must be. There is nothing outside nature to be responsible for nature. As soon as anything is proposed as having some responsibility for natural matters, it has already been discriminated and taken for real in some way or another, and hence it is natural, too. This naturalism's ability to co-opt every supernatural partner is an extraordinary metaphysical strength, yet it also illustrates a deep metaphysical humility.

This naturalism has its limits. Cahoon deliberately crafts his naturalism so that it takes the form of a limiting case to an even more capacious metaphilosophy. What could be more capacious? Cahoon cites the example of Buchler's ordinal metaphysics, which makes a place for anything discriminable regardless of whether it matters, assigned to its own “order” of nature. He could have equally well pointed to Santayana's realm of Essence, or Peirce's categories (firstness, secondness, thirdness, and perhaps zeroness and fourthness too), or Whitehead's possibles. Max Tegmark's four “Levels,” culminating in the maximally encompassing “Mathematical Multiverse” described in his 2014 book *Our Mathematical Universe: My Quest for the Ultimate Nature of Reality*, would be a recent counterpart. All those transcendental and platonic matters, barely discriminable and comprehensible in their eternalities and infinitudes, might, for all we know, have their own realities that our ontological categories cannot manage. However, because we cannot yet affirm any relevance for most of them, asserting their reality seems foolishly premature at present; platonism cannot be encompassed by naturalism. Denying their potential utility for future thought seems even more unwise. Who could say whether intelligence may eventually need this or that conceptual tool or mathematical structure? We should be grateful that the realm to the discriminably imaginable far outruns our foreseeable needs, for that is a source of hope that intellectual progress needn't ever halt for lack of ideas. Insofar as such matters may enter into the minds of far-seeing thinkers who need them, then and there they are real enough to be included within Cahoon's nature; the as yet unthought will have to remain mysterious, as we wait and see whether imaginative experience finds them significant.

Cahoon's naturalism requires that continuities matter. Complete discontinuities permit the metaphysical dualisms to which naturalism must stand opposed. Any natural thing must have direct or indirect influences

with some other natural matters. Those influences do not automatically justify reductions, superveniences, or eliminations, which require stringent theoretical confirmations. Many types of causal influences prevail, too many to be captured by a short list of causes, natural laws, or canonical hierarchies. Cahoone's fourth chapter carefully sets out and explains his naturalism's preferred reliance on conceptions of natural "complexes," "orders" of nature, "teleomatic" processes, and emergences. Among contemporary philosophers of science, William Wimsatt's work is cited with frequent approval; allies include the so-called Stanford school, including Nancy Cartwright and John Dupré, and the "liberal naturalism" heirs of Hilary Putnam, Richard Rorty, and John McDowell.

Cahoone's metaphilosophy is a most valuable exemplification of a pluralistic and nonreductionist naturalism. This is, at last, the single-volume philosophical companion to *Big History*, a reunification of pragmatist antifoundationalism and scientific naturalism, and an unabashed and unrestrained ontology worthy of the traditions of philosophy in America.

John R. Shook
Graduate School of Education
505 Baldy Hall
University at Buffalo
Buffalo, NY 14260
USA
jshook@pragmatism.org