

## THE AMERICAN ORIGINS OF PHILOSOPHICAL NATURALISM

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**ABSTRACT:** If contemporary analytic philosophy can be said to have a philosophical ideology, it undoubtedly is naturalism. Naturalism is often invoked as a motivating ground for many philosophical projects, and “naturalization” programs abound everywhere, in theory of knowledge, philosophy of mind, theory of meaning, metaphysics, and ethics. But what is naturalism, and where does it come from? This paper examines the naturalism debate in mid-twentieth-century America as a proximate source of contemporary naturalism. Views of philosophers like Roy Wood Sellars, John Dewey, John Herman Randall, Sydney Hook, and Ernest Nagel are cited, and some of the central tenets of naturalism, such as an adherence to “scientific method” as the sole source of knowledge and the causal/explanatory closure of the natural world, are explored. The paper ends with a brief discussion of how certain naturalistic constraints lead to some of the problems currently debated in metaethics and philosophy of mind.

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hysicists, as physicists, are not in the business of worrying about the nature and status of physics as a science or the proper way of formulating physical theories or explanations. Nor do astronomers, geologists, or biologists seem much concerned about the nature or foundations of their respective disciplines. But philosophy is different: philosophers seem fated to be self-conscious about their own work, often leading to a deep sense of professional anxiety and self-doubt, and in some cases to bouts of self-flagellation and self-disparagement. “What is physics?” is not itself a question of physics; nor is “What is biology?” a biological question. But “What is philosophy?” is a philosophical question of an established pedigree, and during the twentieth

century metaphilosophy emerged as an important subfield of philosophy. Given this, it is a rather remarkable fact that during the past few decades philosophers in the analytic tradition have shown little interest in questions about the nature of their discipline. Most of them seem to go about their work much as scientists do, apparently unconcerned about what exactly it is that they are doing.

But this does not mean that analytic philosophers are free from metaphilosophical commitments and allegiances. If you ask them, a significant number will profess to be “naturalists” and say that philosophy, whatever it is, ought to abide by the canons of naturalism. If current analytic philosophy can be said to have a philosophical ideology, it is, unquestionably, naturalism. Philosophical naturalism has guided and constrained analytic philosophy as its reigning creed for much of the twentieth century. In this paper, I want to begin an exploration of what naturalism is, or should be, using as my primary source the debate on philosophical naturalism in the early to mid-twentieth-century America. Most philosophers today, including the professed naturalists, seem unaware of the vigorous and surprisingly sophisticated discussion of naturalism that engaged American philosophers, before the post-war European influences, in particular logical positivism/empiricism, Wittgenstein, and Oxford-style language analysis, transformed the philosophical landscape during the second half of the twentieth century. Philosophical naturalism of course goes back further, at least to Hume; however, I believe that it will be instructive, both historically and philosophically, to take a look closer home for the sources of current philosophical naturalism. As I hope you will see, many central themes of naturalism today can be found in the mid-century American naturalism of philosophers like Roy Wood Sellars, John Herman Randall, Sydney Hook, and Ernest Nagel, and it is not necessary to go beyond these philosophers to find a rich American provenance of philosophical naturalism.

## I. A PLETHORA OF NATURALISMS

Most of us now working in the analytic tradition probably first encountered naturalism through ethical naturalism and Quine’s “naturalized epistemology.”<sup>1</sup> The ethical naturalism that we learned in our ethics courses is the view that ethical, or evaluative, expressions can be defined in “naturalistic” terms, where these are generally taken to be nonethical, nonevaluative, descriptive terms (note an apparent but harmless inconsistency here). Most contemporary moral realists think of themselves as naturalists about ethics, but their position does not include the thesis of naturalistic definability of ethical concepts. Nor does Quine’s naturalistic epistemology involve the claim that epistemic terms, or what Chisholm called “terms of epistemic appraisal,” like “evident,” “justified,” and “certain,” are definable on the basis of terms in descriptive psychology. Rather, on a straightforward reading of Quine, his message urges the rejection of the normative—that the traditional justification-centered epistemology be jettisoned in favor of scientific psychology of cognition. However, most contemporary

epistemologists who ally themselves with naturalism would reject Quine's recommendation; they would claim that normative epistemology, with its irreducibly normative concepts of epistemic valuation, can have a well-defined and legitimate place within a naturalistic framework.

Naturalists abound in philosophy of mind/psychology. With few exceptions, most philosophers now in this field take pride in identifying themselves as naturalists; in fact, many of them go out of their way to declare their allegiance to naturalism. Apparently, Cartesian, substantival dualism is beyond the naturalistic pale. But just what is it about substance dualism that makes it naturalistically unacceptable? Also what of property dualism, the claim that, although mental properties, like pain and belief, are instantiated in physical systems, they remain irreducibly distinct from physical properties? This combination of ontological physicalism and property dualism is the current orthodoxy on the mind-body problem, and most philosophers who subscribe to it (e.g., Ned Block, Jerry Fodor, Terry Horgan) would consider their position perfectly consistent with naturalism. But why should naturalism scorn substance dualism and yet warmly embrace property dualism? When some philosophers (e.g., Jerry Fodor, Fred Dretske) attempt to "naturalize" psychological properties, say content or intentionality or qualia, they appear to be attempting reductions—in fact, physicalistic reductions. What is it about intentionality or consciousness or content that require them to be naturalized? Why aren't they perfectly naturalistic as they are? Does naturalization require physical reduction (if so, why?), or are there other ways of making something naturalistically worthy and honorable? We will not be able to take up all of these questions; but it will be good to keep them in mind when we consider specific claims and arguments advanced in behalf of naturalism.

## II. ISSUES TO BE CONSIDERED

To begin to address these questions, it is evident that we need to develop a unified and systematic understanding of naturalism, something that we do not as yet have. Let me first enumerate some of the issues that I believe should be addressed (not all of these will be explicitly discussed below, however).

First, there is the question whether naturalism is, or includes, a set of substantive philosophical theses concerning a specific subject matter, or is, merely or principally, a set of methodological precepts concerning the proper way of conducting our intellectual inquiries. Of course, it could be both of these things.

If naturalism is a methodological precept, does it concern philosophy alone (all of it?), or is it intended to apply to all areas of cognitive endeavor?

If naturalism includes substantive philosophical claims, what are they? Is naturalism a primarily metaphysical doctrine or an epistemological one, or perhaps both, or perhaps something else? If it includes both a metaphysical and epistemological doctrine, what is their relationship? Is one of them perhaps more basic than the other?

A variety of philosophical doctrines are closely associated with naturalism—or at least often mentioned in connection with it. These include empiricism, materialism, physicalism, reductionism, scientific realism, moral realism, epistemological externalism, and nominalism. What do these positions have in common that makes them close allies of naturalism?

### III. NATURALISM AS METHODOLOGY

In reflecting on these questions, I think it will be useful to turn to the earlier discussions of naturalism in America around the mid-century, which constitute a rich body of philosophical work that remains largely unknown to current friends and foes of naturalism. In 1944, a volume of essays by fifteen leading American philosophers was published under the title *Naturalism and the Human Spirit*.<sup>2</sup> The names you may recognize include John Dewey, Sidney Hook, Ernest Nagel, George Boas, Abraham Edel, Sterling Lamprecht, and John Herman Randall. This is the group that W. H. Sheldon, a Yale philosopher and an articulate opponent of naturalism, somewhat mockingly called “the 1944 school of naturalism.” Apparently, this volume was intended as a sort of manifesto for the naturalist movement. Although it came two decades after logical positivism, in their zeal for philosophical reform and the seriousness of their attempt to bring philosophy closer to science, these naturalists did not take a back seat to the positivists.

And like logical positivism, it seems that mid-century American naturalism was conceived by its influential advocates primarily as a methodological doctrine. John Herman Randall referred to naturalism as “an attitude and temper,” claiming that “it is essentially a philosophic method and a program.” According to Sidney Hook, naturalism is “commitment to a procedure, not to a theory of metaphysics.” But what is this “philosophic method” Randall speaks of, or the “procedure” Hook has in mind? In an illuminating article-length review of *Naturalism and the Human Spirit*, Arthur E. Murphy asks, “What is the distinctive philosophical position of the naturalists, and how is it defended?” He goes on:

The answer which seems to me on the whole most generally applicable to the essays that make up the volume is this. Starting from the acknowledged achievements of scientific inquiry so far, the “naturalists” intend to show that these same methods, or others essentially “continuous” with them, are adequate also to those aspects and dimensions of “the human spirit” which in the past have often been held on philosophical grounds to transcend the methods and aims of science.<sup>3</sup>

And Murphy quotes Hook as saying that in regard to religious beliefs the naturalist only asks “to be given an opportunity to examine the evidence and to evaluate it by the same general canons which have led to the great triumphs of science.”

So understood, naturalism appears to be a general methodology applicable not only to philosophy but to all areas of cognitive inquiry, areas in which we seek knowledge of any kind, and perhaps also to practical spheres in which we aim to form reasonable decisions and workable action plans. The emphasis clearly is on “scientific method,” and the core naturalist doctrine seems to be something like this: scientific method is the only method for acquiring knowledge or reliable information in all spheres including philosophy. Hook defines naturalism as “the wholehearted acceptance of scientific method as the only reliable way of reaching truths about the world of nature, society, and man.”

This gives rise to two (sets of) questions: (1) what exactly is “scientific method”? What did these naturalists think it was? Is there such a thing as scientific method that is serviceable in this context? (2) Are these naturalists serious about applying “scientific method” to philosophy? Wouldn’t this make philosophy into a science? Is this what these naturalists thought? Is this what contemporary naturalists think?

Questions under (1) are broad and controversial; I will later return to some aspects of the issues they raise. Concerning (2), it seems that the naturalists were a good deal less self-conscious and sensitive about this issue than the logical positivists. As is well known, the positivists were obsessed with this problem because they wanted to save philosophy as a legitimate cognitive endeavor that yields significant knowledge and yet remains distinct from the traditional empirical and mathematical sciences. We recall the positivists’ talk of “analysis of the language of science,” “conceptual explication,” “the logical syntax of science,” “rational reconstruction,” and “internal” vs. “external” questions. In contrast, the American naturalists appear to have been largely unconcerned about metaphilosophical issues, or even aware of them,<sup>4</sup> although Ernest Nagel was perhaps an exception. (This may be partially explained by the fact that the fundamental tenets of positivism, which were derived from considerations of language and meaning, made the problems stand out with salience, whereas the American naturalists, largely unconcerned with linguistic issues, were willing to base their claims on frankly metaphysical theses.)

Quine’s naturalism probably had its origins in these mid-century American naturalists, and he, too, was little anguished about the status of philosophy. Quine seems to have had a very simple and straightforward position on this issue. When Quine recommended, in his influential paper “Epistemology Naturalized,” the replacement of normative epistemology with empirical psychology (remember that his psychology is the behavioristic psychology of a Skinnerian sort, not the present-day cognitive psychology), I believe he was dead serious about applying scientific method to philosophy: His improved and cleansed epistemology is empirical science—“a chapter,” as he says, of scientific psychology.<sup>5</sup>

#### IV. THE METAPHYSICS AND EPISTEMOLOGY OF NATURALISM

But naturalism is, and has been, more than a methodological doctrine. Its methodological precept, prescribing scientific method as the only way to obtain knowledge in any domain, is clearly based on an epistemological thesis, which we may set out roughly as follows:

The epistemological thesis (ET): all knowledge that we can acquire is acquirable only through the application of scientific method.

To see that American naturalists held substantive doctrines in metaphysics and epistemology as constitutive of their naturalism, it is useful to go back to earlier naturalists, in particular, Roy Wood Sellars, a philosopher whose work, in my view, has been unjustly neglected.

In 1927, Sellars wrote:

Materialism is distinctly an ontological theory, a theory of the stuff of reality. Its polar opposite is usually taken to be mentalism of some kind. Naturalism, on the other hand, is a cosmological position; its opposite is supernaturalism in the larger meaning of that term. I mean that naturalism takes nature in a definite way as identical with reality, as self-sufficient and as the whole of reality. And by nature is meant the space-time-causal system which is studied by science and in which our lives are passed. The whole nature of nature may not be exhaustively known, but its location and general characteristics come under the above categories.<sup>6</sup>

Sellars's naturalism is an ontological doctrine, a proposition about the contents of the world. It makes an overarching metaphysical claim: all that exists is that which exists in the "space-time-causal" world, and this is a "self-sufficient" system. It also carries an epistemological commentary: this is the world "studied by science." This as stated is considerably weaker than the epistemological thesis stated above; for it does not explicitly exclude the possibility that this space-time-causal world might be investigated, and its nature revealed, through methods other than science. It is probable, however, that Sellars would have denied that there are nonscientific, transcendental, or "transempirical" ways of coming to know the spacetime world.

It is of some interest to note that Sellars's overall metaphysical position was akin to that of British emergentism; in fact, it predated Lloyd Morgan's doctrine of emergent evolution, as Sellars himself pointed out.<sup>7</sup> Like the emergentists, Sellars rejects "reductive materialism," although his position, like emergentism, embraces a materialist ontology. Sellars writes:

Another weakness of materialism was its whole-hearted identification of itself with the principles of elementary mechanics. It was naively scientific. We may call this species of materialism reductive materialism. . . . By its very principle evolutionary materialism is opposed to

reductive materialism. It is not finalistic, or teleological, in the old sense . . . but it does not hold that relations in nature are external and that things are machines of atomic complexity. Organization and wholes are genuinely significant.<sup>8</sup>

As the last sentence of this quotation suggests, Sellars, like the British emergentists, made use of the “layered model” of reality, one according to which entities of the world are ordered in a hierarchy of increasingly complex “levels,” with humans and higher-organisms, and their emergent characteristics of life and mentality, occupying the higher levels.

Let us now return to the mid-century and see what Ernest Nagel, one of the few early American naturalists who played a major part in the mainstream analytic philosophy in the second half of the century, has to say. In his presidential address, “Naturalism Reconsidered,” to the American Philosophical Association in 1954, Nagel delineates two theses that he takes to be “central to naturalism” as he conceives it:

The first is the existential and causal primacy of organized matter in the executive order of nature. This is the assumption that the occurrence of events, qualities and processes, and the characteristic behaviors of various individuals, are contingent on the organization of spatio-temporally located bodies, whose internal structures and external relations determine and limit the appearance and disappearance of everything that happens. . . . Naturalism does not maintain that only what is material exists, since many things noted in experience—modes of action, relations of meaning, dreams, joys, plans, aspirations—are not as such material bodies or organizations of material bodies. What naturalism does assert as a truth about nature is that though forms of behavior or functions of material systems are indefeasibly parts of nature, forms and functions are not themselves agents in their own realization or in the realization of anything else.<sup>9</sup>

Note the similarity between Sellars and Nagel in their emphasis on the space-time-causal world and its causal closure. In the paragraph from Nagel, materialism makes an explicit appearance, although he appears to pull back from a full-blown, reductive materialism. The last sentence of the quotation is especially interesting, in what it implies about “downward causation,” or the causal powers of higher processes. Nagel goes on to explain the second thesis of his naturalism as follows:

The second major contention of naturalism is that the manifest plurality and variety of things, or their qualities and their functions, are an irreducible feature of the cosmos, not a deceptive appearance cloaking some more homogeneous “ultimate reality” or transempirical substance, that the sequential orders in which events occur or the manifold relations of dependence in which things exist are contingent connections, not the embodiments of a fixed and unified pattern of logically necessary links.<sup>10</sup>

Here Nagel is battling the overarching explanatory hypotheses advanced in speculative metaphysical systems (e.g., Hegel's) that attempt to give a sweeping account of all phenomena (e.g., as an evolving self-manifestation of the Absolute, or something of the sort). I think that in the current context we can set aside worries of this kind, and focus on what seems like a shared metaphysical thesis of naturalism, which I believe may be stated, again roughly, as follows:

Metaphysical Thesis 1 (MT 1): The spacetime world is the whole world. The entities, properties, events, and facts in spacetime are all the entities, properties, etc. of the world.

We can see that something pretty close to this metaphysical claim is shared by contemporary naturalists. For example, David Armstrong defines naturalism as "the doctrine that reality consists of nothing but a single all-embracing spatio-temporal system."<sup>11</sup> A metaphysical doctrine that David Lewis calls "Humean supervenience" can be thought of as a specialized version of the metaphysical thesis of naturalism:

Humean supervenience is named in honor of the greater denier of necessary connections. It is the doctrine that all there is to the world is a vast mosaic of local matters of particular fact, just one little thing and then another. . . . We have a geometry: a system of external relations of spatiotemporal distance between points. Maybe points of spacetime itself, maybe point-sized bits of matter or aether or fields, maybe both. And at those points we have local qualities: perfectly natural intrinsic properties which need nothing bigger than a point at which to be instantiated. For short: we have an arrangement of qualities. And that is all. There is no difference without difference in the arrangement of qualities. All else supervenes on that.<sup>12</sup>

It goes without saying that, according to MT 1, humans are part of the all-inclusive spacetime world. Although as we shall see, the thesis is too broad as it stands, it already excludes a variety of entities that have been claimed to exist, such as deities (conceived as transcendent), Kantian noumena, the Hegelian Absolute, and abstract universals.

## V. THE METAPHYSICAL THESIS REFINED

For most contemporary naturalists, I believe MT 1 is both too narrow and too broad. Let us first try to see how it may be too permissive. As stated, it does not exclude immaterial spirits and souls, entelechies of neo-vitalism, and the like, for these might be, and have been claimed to be, part of the spacetime world. Descartes conceived of minds not just as extensionless but as being outside physical space altogether; however, he claimed they causally interact with material bodies, and this puts them squarely in the spacetime world. Moreover, it might be claimed that there is no obvious incoherence in

the claim that immaterial minds are located in space, though they are extensionless.<sup>13</sup> And there might be deities immanent in the spacetime world. Nor does MT 1 rule out Moorean nonnatural moral/normative properties of persons, things, and states of affairs of the spacetime world. Nagel appears to claim, as one of the basic tenets of naturalism, that material bodies and their aggregates are the exclusive inhabitants of the spacetime world, and this does rule out immaterial spirits and probably entelechies (though entelechies might be construed as properties of material bodies). But doing it that way, by decree, seems ad hoc and less than satisfyingly motivated. And what of mental properties—in particular, “qualia” and intentional states? Most naturalists would, in the end, consider them part of the natural world, but only after they have been “naturalized.” (Note the title of Fred Dretske’s recent book, *Naturalizing the Mind*.<sup>14</sup>)

In addition, MT 1 may be too narrow in the following sense: consider, for example, Kant’s phenomenal world, the world of “appearances.” This, on the Kantian view, is the causally structured world of our experience, and the fact that Kant also posits the world of noumena should not, it might be argued, be regarded as taking anything away from the fact that his world of appearances is a perfectly legitimate natural world in its own right, a world that a naturalist should be satisfied with. The crucial point here is the fact that Kant’s empirical world, though it does not coincide with all of reality, is causally closed, and from the point of view of scientific understanding, it is also explanatorily autonomous. Roy Wood Sellars may have had in mind something like this when he referred to the space-time-causal world as a “self-sufficient system”; the idea is also pretty explicit in the quotations from Nagel above. Armstrong also says this: “Nature, the spatio-temporal system, is a causally self-enclosed system.”<sup>15</sup>

The idea of “causal closure” of the physical domain has been prominent in arguments concerning mental causation in recent years. As applied to our present case, it might be roughed out as follows:

The causal/explanatory closure of the spacetime world: the cause of any entity or event in the spacetime world is itself within the spacetime world; there is no causal intervention from outside the spacetime world. And no explanation of an event in the spacetime world need invoke any phenomenon or agency outside the spacetime world.

MT 1 implies the closure principle as stated; if the spacetime world coincides with all of what exists, it necessarily is a causally closed system. But a system that allows entities outside the spacetime world need not violate the causal closure condition; Kant’s dual system of phenomena and noumena is a good example of such a system. But the closure is breached by traditional theological systems that allow “miracles,” that is, divine causal interventions in the spacetime world. It seems to me that a naturalist may reject MT 1 as long as he/she respects the closure doctrine for the spacetime world. I think

that many working scientists who are religious in the traditional sense may well be naturalists of this sort. At least, there may be forms of religion, though perhaps not among the major religions of the world, that are consistent with the causal closure of the natural world.

Armstrong has an argument against admitting the existence of anything outside the spacetime world. His argument goes like this: either these entities (God, abstract entities, Karl Popper's "World III," and the like) causally act on the phenomena of the spacetime world, or they do not. But there is every reason to think that they cannot (for conceptual reasons), or at least that they do not (since nature is causally closed, on Armstrong's view, as an empirical matter of fact). So no transcendent entities have causal influence on the natural world, and hence by Occam's razor they can, and must, be expunged. For Armstrong, the existence of the spacetime world is primary, in the sense that anything that is acknowledged to exist must be in a causal relation with something in the spacetime world. This will be contested by anti-naturalists on two counts: first, they may claim, as I did, that naturalism as such need not exclude transcendent entities as long as the spacetime world is causally closed and autonomous; second, the more extreme anti-naturalists would reject the following version of the closure principle which Armstrong's argument seems tacitly to assume as a premise:

If anything  $x$  is causally connected with some  $y$  which is part of the spacetime world, then  $x$  itself is part of the spacetime world.

I think there is something to be said for this principle; in fact, a plausible argument for it can be constructed, although there is no space here to undertake it.

In any case, the causal/explanatory closure principle cannot do all the work: the Cartesians—at least, some of them—will be quite pleased to consider the union of the domains of matter and of Cartesian minds as a single causally closed world. The same goes for entelechies, *élan vital*, and other entities and phenomena despised by proper naturalists.<sup>16</sup> I believe that it may well be necessary to return to the epistemological thesis of naturalism for a proper naturalistic perspective on these possibly suspect entities. But before we do this, let us look at the issue of closure for the natural world a bit more closely.

## VI. THE CAUSAL AND EXPLANATORY CLOSURE OF THE NATURAL WORLD

As you recall, we have stated a single principle of causal/explanatory closure for the natural, spacetime world. In his fine article on "Naturalism" in the Macmillan *Encyclopedia of Philosophy*, Arthur Danto emphasizes the importance of both the explanatory and causal closure of the natural world, evidently treating them as an equivalent thesis or, perhaps, closely related parts of a single thesis:

A natural cause is a natural object or an episode in the history of a natural object which brings about a change in some other natural object. Each natural object owes its existence, continuance, and end to the constant operation on it of natural causes and it is solely with reference to natural causes that we explain changes in the behavior of natural objects. This may require reference to objects we cannot directly experience, but these will nevertheless still be natural objects, and we need never go outside the system of natural objects for explanations of what takes place within it. Reference to nonnatural objects is never explanatory.<sup>17</sup>

The idea is that the natural world is intelligible in its own right, and that if it is not, there is no explanatory help to be expected from outside. One might, it seems, hold this thesis either as a contingent claim, based on the belief that there in fact is no nonnatural being or agent outside spacetime that can provide explanations of natural phenomena, or as a conceptual claim that the very idea of such transcendental explanation makes no sense. I think there is much to be said for this second approach, and if it can be successfully carried out, that would substantially strengthen the naturalist position.<sup>18</sup>

Evidently, both causal and explanatory closure principles are of crucial importance to the naturalist program; if either fails, the program cannot succeed. But what is the connection between causal closure and explanatory closure? Are they equivalent? Is it the case that one of them is more basic and yields the other? Or are there two related but essentially independent principles here?

The answers depend largely on the relationship between causation and explanation, a problem that cannot be taken up in any detail here. Some have plausibly argued that all explanations of individual events are causal,<sup>19</sup> but this alone will not settle the issue, for various reasons. The anti-naturalist might argue that a causal explanation of an event need not exclude the event's being explained also by an explanation of a different type altogether, perhaps a teleological explanation in terms of some transcendental final end. Unless this possibility can be ruled out on conceptual-logical grounds alone,<sup>20</sup> this suffices to show that the two closure principles are not equivalent. Moreover, there is the following *prima facie* possibility that naturalists may want to ponder: an event, or state, can be micro-reductively explained, it may seem, in terms of the underlying synchronous molecular processes as well as its temporally antecedent causal conditions. Why is this kettle of water boiling? Because it's been on the burner for ten minutes. Because the water molecules are moving and colliding with one another with great velocities.<sup>21</sup> If this is the case, causal closure and explanatory closure will not coincide, and their relationship is likely to be complex, depending on a number of issues.

The general point is that the causal closure will at best guarantee the closure of causal explanation of individual events. Thus, the two closure principles may diverge in another way: things other than individual events can be objects of explanation, for example, laws and regularities invoked in the explanation of individual events. It is generally thought that some laws can be

explained by other, more basic laws, and that, given the assumed asymmetry of the explanatory relation, there will always be laws that are not further explainable, in any given theoretical context, or perhaps unexplainable *tout court*—because we have indeed hit the bottom and there are no deeper or more fundamental regularities. And this can provide a toehold for the anti-naturalists: they may claim that an explanation of these basic laws can, and must, be sought outside the natural world, perhaps in some supernatural divine plan, some overarching *telos* of the whole cosmos, or whatever. Many naturalists have warned us against the temptation to seek a single all-inclusive explanation of the natural world and its history as the unfolding of some transcendental plan or an inexorable evolution toward some preordained goal.

If all this is correct, the explanatory closure of the natural world is independent of its causal closure, and must be regarded, I think, as a stronger and more central principle of naturalism.

## VII. EPISTEMIC CONSTRAINTS ON NATURALISTIC METAPHYSICS

We now return to the question of how the naturalists' fundamental epistemological thesis can further sharpen and shape their metaphysical scheme. As you will recall, they have a simple point, namely that only scientific method can generate knowledge, and that it is the only method we should use to obtain reliable information about the world.<sup>22</sup> But what is scientific method? Most contemporary naturalists are likely to wince, if not laugh, at the idea of there being some monolithic "method" that characterizes all science everywhere. In these Postmodern times, when we have all read and, to one degree or another, internalized Kuhn, Feyerabend, and Rorty, many of us may not even be sure whether or not there is such a thing as "science" as a natural kind, a type of human activity regulated by a set of general principles of rationality and evidence. There is no question that skepticism about science and scientific method leads directly to skepticism about the coherence of the naturalistic program. For naturalism to make sense as a philosophical doctrine, the idea of science as a reasonably well-defined activity with a shared commitment to a set of methodological principles, however broad and diverse they may be, is essential.

But a discussion of these broad issues goes beyond my concern. Nor is it my concern to give even a minimal general characterization of "scientific method"; I don't think we need one. I think we can get by with certain features that the naturalists, at least those of the mid-century, associate with science and its method. These may look to us rather simplistic, but I do not believe that this will lead to serious difficulties in interpretation and reconstruction. I think the following two features often associated with science will do for our present purposes:

(1) Science as *objective* (or *intersubjective*): this is the idea that scientific disagreements can in principle be resolved on the basis of impersonal criteria and evidence that the disputants could agree on. This requires that scientific properties—properties in terms of which descriptions, laws, and explanations in science are formulated—be intersubjectively accessible properties. That is, their presence or absence in a given case should be intersubjectively ascertainable on the basis of sharable observational data, however indirect or holistic the procedure may be. In short: scientific properties must be cognitively invariant across different perceivers and cognizers.

(2) Science as *nomological* (or *nomothetic*): a central aim of science is to discover laws and causal connections. Laws, whether precise and unrestricted, or rough generalizations hedged with *ceteris paribus* clauses, form the essential basis for prediction and explanation—in particular, causal explanations—and constitute the core content of scientific theories. In consequence, we choose our scientific concepts for their aptness for use in formulating laws. Thus, the properties and kinds recognized in science are nomic properties and kinds, and are individuated in terms of their causal powers, i.e., causal laws in which they figure.<sup>23</sup> In short: scientific properties must be nomic/causal powers.

I have set forth these ideas roughly and intuitively; no naturalist is likely to accept all of them, especially in the form in which I have stated them, but the two sets of ideas should be familiar to most of us. They still are part of the conventional wisdom about science. In any event, the two ideas are prevalent in the naturalists' writings; the second feature above, the nomic/causal import of science and scientific properties fits particularly well with the naturalist view of the spacetime world as consisting of objects and events in a causal nexus.

Let us try to see, briefly, how the naturalist's view of science and its epistemology leads to certain metaphysical consequences. In each case of a non-natural property or entity—that is, things not acceptable to the naturalist—we can see, I think, an explanation in terms of one or the other of our two conditions on scientific properties.

Consider, first, supernatural properties, for example, properties attributed to deities, properties allegedly experienced in mystical encounters with suprasensory reality, and transcendental properties of certain metaphysical systems. With these intersubjective access is obviously a problem; there is no clear specification, or explanation, of why an experience or observation of a given kind counts as confirmatory, or disconfirmatory, of the presence of a supernatural entity or property. In fact, their public inaccessibility is often stressed as one of their essential features; as I take it, this is part of what makes them mysterious and special. Further, these supernatural properties are thought to have causal powers, powers to intervene in the natural world. But their causal behaviors are apparently not governed by laws—at least, laws

of the sort that can be observationally and experimentally verified. This means that even if there were laws governing these properties, they would fail the first test of public confirmability and thus could not be scientifically investigated.

Second, consider normative/moral properties. Some naturalists of course consider them to be natural properties (e.g., identification of good with pleasure, right with optimal promotion of happiness, etc.). For them there is no special problem about moral properties. However, there are serious disputes about the status of moral properties in relation to the two criteria of scientific properties. The difficulty, perhaps impossibility, of settling fundamental moral disagreements has long been noted. Does the widely shared view that moral properties are supervenient on factual/descriptive properties help with this problem? Not really; for people who disagree on fundamental moral issues are ipso facto disagreeing about supervenience—not about whether moral properties supervene on nonmoral properties, but about on which factual/descriptive properties a given moral property supervenes. That is to say, moral disagreements are typically about the supervenience bases of specific moral properties. In regard to the second, “causal power” criterion, it is no wonder why the issue of “moral explanation” has become an issue between moral realists (e.g., Nicholas Sturgeon) and those who oppose moral realism (e.g., Gilbert Harman). For moral explanations of the sort that moral realists have in mind seem either straightforward causal explanations or at least involve causal relations between moral properties and nonmoral properties

Third, minds and mental properties have been an issue to which the naturalists have attached great importance. Roy Wood Sellars thought it was a crucial test case for naturalism. Here, both criteria of scientific properties come into play. At least for certain mental properties, in particular, phenomenological properties or “qualia,” intersubjective observability or confirmability has been an issue for a long time (although the problem of “other minds” appears to have had a fairly short history). Some empiricists have advanced the argument that sense-data could serve their epistemic purpose in generating objective knowledge even though they themselves may lack cognitive invariance across perceivers. This ties in with the idea, much discussed of late, that qualia do not enter into a complete scientific description of the world. This idea is the basis of the so-called knowledge argument concerning qualia and physicalism.<sup>24</sup> As for the second criterion of causal efficacy, this leads directly to the much debated and controversial problem of mental causation.<sup>25</sup>

The two knotty problems in current philosophy of mind, therefore, can be seen to have their roots in philosophical naturalism. And we saw how normativity emerges as a deep metaphysical issue within a naturalistic framework. These are only two of the examples that can be cited to illustrate how naturalism as the ruling ideology of analytic philosophy has helped to shape its problematic during the second half of the twentieth century.

Let me conclude this somewhat cursory and incomplete survey and discussion of the mid-century American naturalism by expressing my hope that I have at least succeeded in persuading those interested in the status and history of philosophical naturalism to pay closer attention to the rich and variegated works of American naturalists, from Roy Wood Sellars and John Dewey to Ernest Nagel and John Herman Randall. I believe there is here a mine of ideas and arguments that can illuminate our own concerns about the nature of philosophical inquiry.

### ENDNOTES

1. W. V. Quine, "Epistemology Naturalized," in *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969).
2. Yervant H. Krikorian, ed., *Naturalism and the Human Spirit* (New York: Columbia University Press, 1944).
3. Arthur E. Murphy, Review of *Naturalism and the Human Spirit*, *Journal of Philosophy* 42 (1945): 400–417, esp. 405.
4. This seems to be the basis of Sheldon's mocking challenge to the naturalists: "You have given no new results in philosophy; you point only to the results gotten by the physical sciences. If you think philosophy is anything besides these sciences, you should on your own showing, if you want us to believe your method is right, experiment with it to see if it gives knowledge in addition to what they give: something more than physics, to wit, metaphysics. Not one of you has even tried for this. . . . Your own creed tells you not to believe anything till it is experimentally confirmed. How can you expect us to believe you have the right method for philosophy until you show us that it succeeds in giving us objective truth comparable with that of the sciences, truth on which the philosophic experts agree?" W. H. Sheldon, "Critique of Naturalism," *Journal of Philosophy* 42 (1945), 255–270, esp. 258; italics in the original.
5. For an excellent survey and analysis of epistemological naturalism in the latter half of the twentieth century see Philip Kitcher, "The Naturalists Return," *Philosophical Review* 100 (1992): 53–114. Hilary Kornblith, ed., *Naturalizing Epistemology*, 2nd ed. (Cambridge Mass.: MIT Press, 1994), is a highly useful anthology of works on contemporary naturalistic approaches to epistemology. It is notable, however, that neither work mentions any of the mid-century American naturalists under discussion in this paper.
6. "Why Naturalism and Not Materialism," *Philosophical Review* 36 (1927), 216–225. Reprinted in *Principles of Emergent Realism: Philosophical Essays of Roy Wood Sellars*, ed. W. Preston Warren (St. Louis, Mo.: Warren H. Green, 1970).
7. *Principles of Emergent Realism*, vi.
8. "Why Naturalism and Not Materialism," 136.
9. Ernest Nagel, "Naturalism Reconsidered," in Nagel, *Logic Without Metaphysics* (Glencoe, Ill.: The Free Press, 1956), 7.
10. *Ibid.*, 7–8.

11. David M. Armstrong, "Naturalism, Materialism, and First Philosophy," in Armstrong, *The Nature of Mind and Other Essays* (Ithaca, N.Y.: Cornell University Press, 1981), 149.
12. David Lewis, *Philosophical Papers, Volume II* (New York: Oxford University Press, 1986), ix–x.
13. I believe that more careful considerations show this to be a metaphysical impossibility. See my "Lonely Souls: Causality and Substance Dualism," in *Soul, Body and Survival*, ed. Kevin Corcoran (Ithaca, N.Y.: Cornell University Press, 2001).
14. Fred Dretske, *Naturalizing the Mind* (Cambridge, Mass.: MIT Press, 1995).
15. "Naturalism, Materialism, and First Philosophy," 153.
16. At least for some of these entities it is possible to take the stance that there is nothing anti-naturalistic about our conceptions of them, and it is only that as an empirical fact there are no such things in the natural world.
17. Arthur Danto, "Naturalism," *Encyclopedia of Philosophy*, ed. Paul Edwards (New York: Macmillan, 1967), vol. 5, 448.
18. However, many naturalists never seem to miss an opportunity for saying that some claim or other they favor is an empirical thesis to be decided ultimately on empirical scientific evidence. If they are offered a choice between proving naturalism as an a priori necessary truth and showing it to be only a probable empirical scientific truth, most will go for the latter!
19. See, e.g., David Lewis, "Causal Explanation," *Philosophical Papers, Volume II*; Wesley C. Salmon, *Scientific Explanation and the Causal Structure of the World* (Princeton, N.J.: Princeton University Press, 1984).
20. The so-called principle of "explanatory exclusion" would be relevant here; see my "Mechanism, Purpose, and Explanatory Exclusion," *Philosophical Perspectives* 3, ed. James E. Tomberlin (Atascadero, Calif.: Ridgeview, 1989), 77–108. Reprinted in my *Supervenience and Mind* (Cambridge: Cambridge University Press, 1993).
21. I believe, however, that dual explanations of this kind are in fact not possible. See for discussion my "Mental Causation and Consciousness: The Two Mind-Body Problems for the Physicalist," in *Physicalism and Its Discontents*, ed. B. Loewer (Cambridge: Cambridge University Press, 2001).
22. Here again it is possible to restrict this thesis to the natural world—that is, as the claim that for the knowledge of the natural world the method of science is the only method. This would leave open the possibility of, say, revealed knowledge of a transcendental world.
23. The idea that our concepts must correspond to the "natural joints" apparently goes back to the ancients; for examples of more recent statements of this idea, see, e.g., Carl Hempel, *Fundamentals of Concept Formation in Empirical Science* (Chicago, Ill.: University of Chicago Press, 1955). For an explicit statement of the idea that kinds in science are individuated by causal powers, see J. A. Fodor, *Psychosemantics* (Cambridge, Mass.: MIT/Bradford Books, 1987), especially chap. 2. For some further discussion, see my "Multiple Realization and the Metaphysics of Reduction," *Philosophy and Phenomenological Research* 52 (1992), 1–26.
24. See Frank Jackson, "Epiphenomenal Qualia," *Philosophical Quarterly* 32 (1982), 127–136.
25. For further discussion see, e.g., my *Mind in a Physical World* (Cambridge, Mass.: MIT Press, 1998).