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## 8a

### Response to Frederick Grinnell

Peter van Inwagen

THE BODY OF PROFESSOR GRINNELL'S paper seems to me to be an argument for what I would call *methodological naturalism*. This I take to be the thesis that scientific explanations and theories should assert or presuppose the existence of nothing but natural objects. Scientific explanations, moreover, should not assert or presuppose that these natural objects have any properties but natural properties. (Some might say that a natural object like Mt. Everest has such properties as being sublime or being a divine creation, and that, unlike height and weight and other measurable qualities of things, these are not natural properties.) It may be, says the methodological naturalist, that there are objects that are not natural objects; and it may be that some natural objects have properties that are not natural properties. But such things and such properties are, if they exist, irrelevant to the enterprise of science.

Many questions might be asked about methodological naturalism. One of the most important is: What does "natural" mean? But I will simply assume that we understand this term well enough to go on.

I know, have corresponded with, and have read books by many scientists who are Christians. Every one of them is a methodological naturalist. All of them, of course, believe that there are things that are not natural things, and all of them believe that even natural things have properties that are not natural properties. Nevertheless, they would not dream of asserting or presupposing the existence of anything but natural objects and natural properties in their theories and explanations.

Methodological naturalism is, therefore, old news, and Professor Grinnell's paper is largely an argument for the truth of this piece of old news. But there is nothing wrong with that. His paper is a philosophical paper, and one of the main tasks of philosophy is to argue for old news. There are a lot of good reasons for this: arguments for old news help us better to understand our beliefs, for example, and they remind us of the value of and centrality to our thought of various beliefs that we might

otherwise be as unaware of as a fish is of water.

Is the argument a good one? Well, I have heard this sort of argument before, and I have no quarrel with it. But it does strike me that there are some other things that might be said in defense of methodological naturalism.

In my own contribution to this symposium I mention a well-known episode in the history of science, the story of Newton and the instability of the solar system. I want to contrast this story with another story of more recent vintage. Several years ago, a few physicists suggested that certain effects could be explained only by the postulation of a fifth fundamental force (in addition to gravity, electromagnetism, the weak nuclear force, and the strong nuclear force). They labeled this force "hypergravity." After a short while, however, general agreement was reached that the effects the force was supposed to explain did not in fact exist, and hypergravity was removed to the scientific attic, to gather dust beside phlogiston and the luminiferous ether.

Now suppose that someone were to reason as follows. "Newton and the proponents of hypergravity each attempted to explain a certain effect by postulating something invisible to account for it—in the one case, God, and in the other, hypergravity. In each case it turned out that no account was needed, and the effort was dropped. But what is the difference between the two cases? If the postulation of a force called hypergravity (which is detectable only through the effects it is postulated to explain) is something that one can do without violating the canons of science, why is the postulation of a being called God (who is likewise detectable only through the effects he is postulated to explain) not something that one can do without violating the canons of science? What is the essential difference between the two cases? Why not, in fact, reject methodological naturalism as foundational to science, and say that scientific explanations involving God would be perfectly all right in principle—it just turns out that (as Laplace observed) they are not needed? (Not so far, at any rate. But we should recognize no fundamental objection to introducing them in the future if they should turn out to be needed.)"

I think that this reasoning is misguided, and I am not sure that an appeal to "radical intersubjectivity" does a very good job of explaining why it is misguided. To explain why it is misguided, I appeal to the following considerations.

Newton did not have a theory about God and his relation to the solar

system that explained why or when or how God would correct the orbits of the planets. At any rate, he did not have a theory that explained these things in the sense that his theories of motion and gravitation explained Kepler's laws of planetary motion. According to Newton, correcting the orbits of the planets is something God "just does," and there is really nothing more to be said about the matter. The advocates of hypergravity, on the other hand, did not simply say, "There's a thing, a natural force, called 'hypergravity' and it is the cause of phenomenon X." Rather, they had a theory with a detailed mathematical structure, on the basis of which one could predict the occurrence (under conditions whose occurrence in conjunction with phenomenon X could be verified) of phenomenon X. If they *had* said, "There's a thing, a natural force, called 'hypergravity' and it is the cause of phenomenon X," and had said no more than this, then they would not have provided a scientific explanation of "phenomenon X," despite the fact that their statement appealed only to purely natural objects and properties.

The trouble with trying to construct scientific theories that appeal to God or to other supernatural agencies is, I suggest, that the "theories" always turn out not really to be theories at all. They turn out to be simple assertions, usually to the effect that some causal relation holds between God and some part of the natural world. I myself think that the statement "God is the creator of the cosmos" is true. And I think that it is a far more important truth than anything discovered by Newton, Darwin, or Einstein. But I do not mistake it for a scientific theory. It is not a scientific theory because it is not a theory of any sort. Theories tell you how things work, and this statement tells you what happened.

If the statement "God is the creator of the cosmos" is not a scientific theory, neither is the statement "Because God created it" a scientific explanation of the existence of the cosmos. It is an explanation all right, but it is not a *scientific* explanation. Scientific explanations *appeal to* theories. They are applications of theories to particular events or types of event or phenomena. The statement "Because God created it" is no more a scientific explanation of the existence of the cosmos than "Because Booth shot him" is a scientific explanation of the death of Lincoln: in neither case is a theory involved.

Thus I would supplement Professor Grinnell's argument for methodological naturalism.

It is a commonplace in discussions like this to distinguish methodological from *ontological* or *metaphysical* naturalism. Ontological or

metaphysical naturalism is the thesis that everything that exists is a natural object having only natural properties. (Whatever “natural” means; remember that I have not undertaken to define this term.)

It is obvious that metaphysical naturalism entails methodological naturalism, in the sense that anyone who accepts the former is committed to the latter—one does not construct theories or explanations that appeal to things that one firmly believes not to exist. (This statement probably requires some qualification. I remember a course in colloid chemistry from my undergraduate days in which the instructor thought it permissible to appeal to “vibrations of the ether particles” in deriving some of the optical properties of colloids; this appeal was excused on the ground that the “ether particles” were, in this context, a “useful fiction.”) But what are the implications of methodological naturalism for metaphysical naturalism?

I know from experience that there are people who simply *conflate* methodological and metaphysical naturalism. In a sense, these people might be said to believe that methodological naturalism entails metaphysical naturalism. But what these people are really doing is calling both theories by one name—probably “naturalism”—and are treating “naturalism” as methodological naturalism when they are called on to defend it, and as metaphysical naturalism when they are drawing conclusions from it.

Among people who are clear about the distinction between methodological and metaphysical naturalism, however, it would be hard to find anyone who thought that methodological naturalism *entailed* metaphysical naturalism. Almost everyone who is clear about the distinction between them would agree that someone could accept methodological naturalism and reject metaphysical naturalism without any logical inconsistency.

Let me offer an analogy that will help to explain why it is hard to see any logical connection between methodological and metaphysical or ontological naturalism. Professor Grinnell tells the story of a man who is looking for his keys in the light of a street lamp, even though he does not know that that is where they are. In most versions of the story, the man is a drunk, and *knows* that the keys are not in the area lighted by the lamp. That is funny. Professor Grinnell’s story is not funny, however, not really, since the hero of his story is simply following the very sensible policy of not trying to use his eyes in the dark; the keys *may* be in the lighted area, and that is the only place he has any hope of

finding them, so that is where he is looking. He is, one might say, an adherent of *methodological clavigiluminism*. But he does not accept (nor, of course, does he reject) the thesis of *ontological clavigiluminism*—the thesis that the keys *are in fact* somewhere in the lighted area. It is obvious that the adherent of methodological clavigiluminism is not logically committed to the thesis of ontological clavigiluminism. It should be equally obvious that the adherent of methodological naturalism is not logically committed to the thesis of ontological (metaphysical) naturalism.

Logical entailment and logical commitment are not everything, however. Some have suggested that the great and impressive mass of scientific information, explanation, and theory that are the fruit of the adherence of scientists to methodological naturalism constitutes important support for metaphysical naturalism. It has been argued that the fact that a science based on methodological naturalism has been so successful implies that the world is without “gaps” that need to be filled in by the acts of a deity: the success of a science based on methodological naturalism shows that “there is nothing left for God to do.”

In my view, that argument is not cogent. In my view, it appeals to a theologically very primitive notion of what it is that God is supposed to “do.” But I don’t wish in these remarks to address the questions that this sort of argument raises. I will remark only that it is a philosophical argument, and that it is by that very fact highly controversial. As with any other philosophical argument, you accept it or you don’t, and it is probably not going to convince anyone who is not initially sympathetic with its conclusion.

I am not sure what Professor Grinnell thinks about the relation between methodological and metaphysical naturalism. I don’t see any unequivocal evidence in his paper that he thinks that his arguments (which I read as arguments for methodological naturalism) offer any support for metaphysical naturalism. There are, however, a few things that he says that make me a bit uneasy. Perhaps I have misunderstood him. I’ll quote just one sentence.

The key question remained: is life a biochemical event, or the work of a creative intelligence?

The answer I would give to this “key question” is *Yes*. That is, I think that life is *both* a biochemical event and the work of a creative intelligence. And I don’t see any shadow of inconsistency or tension

between these two features that I ascribe to life. I am just puzzled. I would like to know more about what lies behind the very exclusive-sounding *or* in the sentence I have quoted.

In closing, I would like to make a few comments about what Professor Grinnell says about religion. The following quotation seems to sum up his ideas. "Religious faith orients a person toward the ultimate meaning of the world." Well, yes, I can agree with that. But I think that such a statement could be very misleading. It could be taken to mean that religious faith is primarily expressed in musing on the question "What does it all mean?" or at least in some type of philosophical reflection. It suggests that religious faith consists in some sort of reaching out by the individual or the community toward a passive infinite.

My faith holds that an active Infinite is reaching out toward me and every other human being. My faith holds that there is a living reality that is an active *person*, beside which the created world (which includes at least the totality of the distribution of matter and radiation in spacetime) is, in the words of St. Anselm, "almost nothing." This active, personal, living reality has *plans* for me and for you and for everyone else, and is working to bring these plans to fruition. My faith is (so I believe) a piece of news about these plans, and it is designed (not by me; I am a mere recipient of this faith) to put me and anyone who accepts it into right relation to these plans and to their Author.

Let me sharpen these remarks about an "active Infinite" by constructing my own example of a "religious statement" about the sun. There is nothing particularly original about it; the thought behind it, if not the exact words I use, is a thought that any reasonably reflective theist would assent to. It seems to me better to reflect the religious attitude (or the theistic attitude; I am not convinced that there is any such thing as "the religious attitude," an attitude toward things that is supposedly common to, for example, Zen Buddhists and Sunni Muslims) than Joshua 10:12. That passage is a report of a speech made in the course of a narrative of Joshua's military adventures. The speech it records is not science, philosophy, or theology; it is what a novelist would call dialogue. If you wanted to compare it with something that was supposed to have come from the tongue or pen of a scientist, the famous words that Galileo never spoke about the earth (*E pur si muove*) would be a closer parallel than the words in Professor Grinnell's paper that Copernicus never wrote about the sun.<sup>1</sup>

But I digress. Here is my "religious statement about the sun":

The sun exists at God's pleasure. It reflects his glory as surely as the moon reflects its light, and for that reason it is in many cultures a symbol of the divine. It exists from moment to moment only because its continued existence is his will, and it would instantly cease to exist if he stopped holding it in existence. In its interior, the principles of general relativity, quantum chromo-dynamics, and quantum electroweak-dynamics combine to produce the photons that, aeons after their production, will fall on the surface of the earth to provide the energy that living organisms will exploit. These physical laws are inventions of his, chosen freely by him, from among an unimaginable number of alternative possible sets of laws. These laws hold from moment to moment only because their continued holding is his will, and if he were to stop willing that they hold, the sun and the rest of the physical universe would instantly dissolve into chaos.

#### NOTE

<sup>1</sup>At least I don't see how he could have written them. Professor Grinnell gives no citation, and the words he attributes to Copernicus seem clearly to misrepresent Copernicus' system. His planets (since they are embedded in rotating spheres) have to move in perfectly circular orbits. At the geometrical center of each planetary orbit is a point in empty space, from which the sun (which Copernicus hardly mentions) is removed by as much as several solar diameters. The orbits of the planets, as we now know, are slightly elliptical, with their foci near the center of the sun; in consequence, a system that made the planets move in perfectly circular orbits around the sun would make wrong predictions, and they would be wrong enough to have been definitely inconsistent with sixteenth-century observational data.