

## The Shape of Causal Reality

According to Tim O'Connor, 'once one sees that unreduced modality is unavoidable for ordinary explanatory purposes, a modalised response to the question of contingent existence is both natural and *prima facie* viable, and there is much to commend classical monotheism as the framework best suited to providing an outline of a comprehensive and non-arbitrary ultimate explanation' (2). I disagree. Even if we grant—at least for the sake of argument—that unreduced modality is unavoidable for ordinary explanatory purposes, it seems to me that naturalism is the framework best suited to providing an outline of a comprehensive and non-arbitrary ultimate explanation.

We start by considering the shape of causal reality under the causal relation. We allow that reality may be more extensive than causal reality: it may, for example, also contain abstracta. We suppose that, among other things, causation relates states of causal reality. We make no assumptions about relations between time and causation: all talk about priority is talk about priority under the causal relation. Consequently, we assume that we have a directed causal relation: causes are causally prior to effects. We allow that causal relations may be objectively chancy—i.e., we do not assume that causes necessitate their effects.

Among the hypotheses about the shape of causal reality that might be entertained, there are at least the following:

CIRCLE: Causal reality forms a circle.

REGRESS: Causal reality forms an infinite regress.

SINGLE INITIAL STATE: Causal reality has an initial state.

MANY INITIAL STATES: Causal reality has many initial states.

Moreover, each of these hypotheses admits of several varieties (I shall not attempt to give an exhaustive taxonomy, but shall rather restrict myself to the most simple and obvious suggestions):

Under CIRCLE, it might be that all of the states of causal reality are contingent; or it might be that one state—or one proper segment of states—is necessary; or it might be that all states are necessary.

Under REGRESS, it might be that all of the states of causal reality are contingent; or it might be that some initial segment of states is necessary.

Under SINGLE INITIAL STATE, it might be that all of the states of causal reality—including the initial state—are contingent; or it might be that only some of the states—including the initial state—are necessary; or it might be that all of the states are necessary.

Under MANY INITIAL STATES, it might be that all of the states of causal reality—including the many initial states—are contingent; or it might be that only some of the

states—including some of the initial states—are necessary; or it might be that all of the states are necessary.

Complicating matters further, we need to note that the modality of a state of causal reality can be distinct from the modality of the entities that are involved in that state. So, for example, a CONTINGENT SINGLE INITIAL STATE might involve a necessarily existent being. Of entertainable hypotheses here, the only one that we rule out *ab initio* is that a NECESSARY SINGLE INITIAL STATE might involve a contingently existing being. While it is an entertainable hypothesis that there is a NECESSARY SINGLE INITIAL STATE, if the INITIAL STATE involves a contingently existing being, then there must be a CONTINGENT SINGLE INITIAL REALISER STATE—and we insist that causal relations hold between realiser states.

To simplify discussion, we shall here simply ignore MANY INITIAL STATES, CIRCLE, and REGRESS, and focus our attention solely on SINGLE INITIAL STATE. I am sceptical that there are good reasons to rule out these hypotheses; but that is a discussion for another day.

The topic for discussion, then, is this: given SINGLE INITIAL STATE, do we have reason to prefer THEISM to NATURALISM. (I think that, on each of MANY INITIAL STATES, CIRCLE and REGRESS, we would have reason to prefer NATURALISM to THEISM. However, I won't try to argue for that claim here.) In order to proceed with this discussion, we need to give some account of NATURALISM and THEISM.

For present purposes, THEISM is the hypothesis that the initial state of causal reality involves a necessarily existing person that is not part of natural reality, i.e. not part of the spatiotemporal realm that is the proper domain of natural science; and NATURALISM is the hypothesis that the initial state of causal reality is part of natural reality, involving only natural entities and natural properties that lie—at least in principle—in the proper domain of natural science. Of course, THEISM and NATURALISM both admit of a range of varieties; the above accounts can be considered to be stipulations for the purposes of subsequent discussion.

On NECESSARY SINGLE INITIAL STATE, THEISM says that the SINGLE INITIAL STATE involves—and indeed consists in—the necessary initial state of a necessarily existing person. On CONTINGENT SINGLE INITIAL STATE, THEISM says that the SINGLE INITIAL STATE involves—and indeed consists in—the contingent initial state of a necessarily existing person. On all versions of SINGLE INITIAL STATE, THEISM says that the necessarily existing person brings about the existence of natural reality by bringing about the initial state of natural reality. (Thereafter, the state of causal reality includes both the state of natural reality and the state of the necessarily existing person.) As far as I can see, given what we have so far, there are entertainable versions of SINGLE INITIAL STATE on which THEISM holds that the initial state of natural reality is necessary, and there are versions of SINGLE INITIAL STATE on which THEISM holds that the initial state of natural reality is contingent (but, on any version of CONTINGENT SINGLE INITIAL STATE, THEISM holds that the initial state of natural reality is contingent).

On NECESSARY SINGLE INITIAL STATE, NATURALISM says that the SINGLE INITIAL STATE is the initial state of natural reality, and that that state obtains of necessity. Similarly, on CONTINGENT SINGLE INITIAL STATE, NATURALISM says that the SINGLE INITIAL STATE is the initial state of natural reality, and that that state obtains only contingently. What else we might say about these hypotheses depends upon what we say about the composition of the initial state of natural reality. To fix ideas, let's pretend that the initial state of natural reality involves an INITIAL SINGULARITY, and that that INITIAL SINGULARITY has a certain INITIAL STATE. (Indeed, let's suppose that the initial state of natural reality *consists in* the INITIAL STATE of the INITIAL SINGULARITY.) Then we can proceed to entertain hypotheses: the INITIAL SINGULARITY might exist of necessity, or it might exist only contingently; and the INITIAL STATE of the INITIAL SINGULARITY might or might not be essential to the INITIAL SINGULARITY.

One might think, at this point, that it is pretty clear that, on grounds of parsimony, NATURALISM trumps THEISM, no matter how the details are played out. Whatever the INITIAL STATE of the INITIAL SINGULARITY turns out to be, THEISM is committed to *that*, and then, in addition, is also committed to the INITIAL STATE of a personal, transcendent being. Moreover, whatever the modal status that THEISM supposes belongs to its postulated personal transcendent being, NATURALISM can suppose that that same modal status attaches to the INITIAL SINGULARITY. So, however we suppose that things go, NATURALISM has all of the explanatory virtues of THEISM—at least insofar as we are concerned with the project of explaining why there is something rather than nothing—but achieved at a smaller cost. (We shall return later to the thought that there might be other reasons—not yet in play—for preferring a personal transcendent being to an initial singularity.)

O'Connor offers an argument—'a rather hard-scrabble metaphysical excursion' (8)—against the suggestion that 'the universe itself or its fundamental constituents are necessary' that might be thought to rule out the naturalistic hypotheses here being countenanced. However O'Connor's argument turns on claims about the enormous mereological complexity of the universe or the enormous number of fundamental particles that are to be found in the universe. (See O'Connor (2008: 86-92.) But, even granting O'Connor's preliminary claims about the necessary unity of necessary beings, it is, at the very least, not at all obvious that his criticisms get any purchase at all against the hypothesis that the natural world begins with the INITIAL STATE of the INITIAL SINGULARITY. Certainly, the second claim gets no purchase: at sufficiently early stages in the history of the visible universe, there were no fundamental particles. But even the first claim is not evidently right: that the universe has enormous mereological complexity at later stages does not establish that it had enormous mereological complexity in its initial state.

Clearly, at this stage, it would be a bold metaphysical speculation to suggest that the natural world did, in fact, begin from a mereologically simple initial state. (Not, I think, bolder than the speculation that the world was created by a transcendent simple person—but bold nonetheless!) But, in any case, I'm inclined to question O'Connor's preliminary claims about the necessary unity of necessary beings. If we take seriously—as we are doing here—O'Connor's suggestions about the epistemology of modality, then it seems to me that we might well be driven towards a modal theory that quickly delivers up a necessarily existing INITIAL SINGULARITY (at least

given the assumption that SINGLE INITIAL STATE is true), even if that state has some mereological complexity.

It seems to me that a plausible theory of ‘absolute (metaphysical) possibility’—cf. O’Connor (2008:60)—begins from the claim that all possible worlds share the laws, and an initial segment of the history, of the actual world. The histories of all other—i.e. non-actual—possible worlds diverge from the history of the actual world as the result of different outcomes of objectively chancy events. In other words: laws and initial events are absolutely (metaphysically) necessary; different possible outcomes depend entirely upon the out-workings of objective chance. Where other theories claim that the domain of alethic modality is rather wider, the current theory supposes that more theoretical work is done by notions of merely doxastic possibility and the like: while it may be conceivable, for example, that the laws be other than they actually are, this is not an absolute (metaphysical) possibility.

If NATURALISM is conjoined with this theory of absolute (metaphysical) possibility, then it turns out that, on the assumption that the natural world begins with the INITIAL STATE of the INITIAL SINGULARITY, it is absolutely (metaphysically) necessary that causal reality begins with the INITIAL STATE of the INITIAL SINGULARITY. Moreover, we get to this conclusion independent of any speculations about, say, the mereological complexity of the INITIAL STATE of the INITIAL SINGULARITY.

Following O’Connor (2008:87), let ‘N’ be the property of necessary existence; and let ‘S<sub>1</sub>’, ... , ‘S<sub>n</sub>’ be essential properties of the INITIAL STATE of the INITIAL SINGULARITY. If we suppose that objective chance is operative in causal reality from the INITIAL STATE of the INITIAL SINGULARITY, then we can suppose that that is the sole absolutely (metaphysically) necessary state: all parts of causal reality other than the INITIAL STATE of the INITIAL SINGULARITY are absolutely (metaphysically) contingent. In that case, there will be an absolutely (metaphysically) necessary connection between N and S (where ‘S’ is the conjunction of the S<sub>i</sub>). Moreover, if the S<sub>i</sub> are only instantiated in the INITIAL STATE of the INITIAL SINGULARITY, then there will be an absolutely (metaphysically) necessary connection between N and each of the S<sub>i</sub>, and there will be pair-wise absolutely (metaphysically) necessary connections between the S<sub>i</sub>. However, if some of the S<sub>i</sub> are instantiated in subsequent states of causal reality then, while there will be an absolutely (metaphysically) necessary connection between N and S, no further absolutely (metaphysically) necessary connections between the properties that are essential to the INITIAL STATE of the INITIAL SINGULARITY obtain.

In view of the above considerations, it seems to me that a proper working through of the first two stages of O’Connor’s three stage cosmological argument—the existence stage and the first part of the identification stage—actually favours NATURALISM over THEISM. There are several parts to my case for this conclusion. First, while O’Connor’s views about the ontology and epistemology of modality seem congenial to me, they are clearly controversial; there are competing views about the ontology and epistemology of modality that have not been ruled out that are far better disposed towards NATURALISM than THEISM. Second, in my view, the existence stage of O’Connor’s argument does not succeed in ruling out competing views about the shape of causal reality that are plainly better suited to NATURALISM than to THEISM.

Third, even if we suppose that causal reality has an initial state—the one case on which it does not seem *prima facie* clear that NATURALISM is to be preferred to THEISM—it still turns out that considered weighing of theoretical parsimony and explanatory breadth favours NATURALISM over THEISM.

The second part of the identification stage of O'Connor's cosmological argument is, in effect, an argument for the conclusion that the initial state of causal reality has personal and agential properties. In particular, O'Connor (2008: 93-110) argues that, given the conclusion that there is a transcendent cause of natural reality, the fine-tuning data supports the claim that the transcendent cause has personal and agential properties over the competing claim that the transcendent cause is impersonal and mechanistic. Might it be that the fine-tuning data gives us reason to reconsider the earlier claim that a weighing of theoretical parsimony and explanatory breadth favours NATURALISM over THEISM?

I don't think so. However, I can only give a sketch of some of the relevant considerations here.

Suppose, first, that fine-tuning traces all the way back to the INITIAL STATE of the INITIAL SINGULARITY. That is, suppose that: (1) if certain properties of the INITIAL STATE of the INITIAL SINGULARITY had been slightly different, then subsequent natural causal reality would not have been life-permitting; but, (2) given that the properties of the INITIAL STATE of the INITIAL SINGULARITY lay in certain appropriately narrow ranges, it was then guaranteed that subsequent natural causal reality would be life-permitting. Then, given the theory of absolute (metaphysical) modality sketched above, it follows that the fine-tuning of natural causal reality is absolutely (metaphysically) necessary, and hence not susceptible of—and not in need of—any further explanation. Given that NATURALISM was ahead of THEISM prior to consideration of the fine-tuning data, it follows that THEISM cannot be ahead of NATURALISM after we take that data into account.

Suppose, second, that fine-tuning does not trace all the way back to the INITIAL STATE of the INITIAL SINGULARITY. That is, suppose that there are at least some aspects of fine-tuning of natural causal reality that arise contingently at non-initial stages of natural causal reality. Then, given the theory of absolute (metaphysical) modality sketched above, NATURALISM says that those aspects of the fine-tuning of causal reality are the results of the outplaying of objective chance. Is this, then, the point at which THEISM can finally make inroads? I don't think so. For consider any putative aspects of the fine-tuning of natural causal reality. Either we have good, independent reasons for supposing that these putative aspects of the fine-tuning of natural causal reality are the out-workings of objective chance, or we do not. If we have such good reasons, then there is nothing here on which THEISM can gain purchase. But if we do not have such good reasons then, it seems to me, we simply have no reasons for supposing that these putative aspects of the fine-tuning of natural causal reality arose contingently at non-initial stages of natural causal reality (or, at any rate, that it seems to me is what the supporters of NATURALISM ought to say).

I anticipate that some people may object that it is incredible to suppose that allegedly fine-tuned aspects of natural causal reality are absolutely metaphysically necessary. After all, our knowledge of the alleged fine-tuning derives from scientific models in

which various parameters are allowed to vary, and the consequences of this variation are then observed. However, most people suppose that variation of parameters in scientific models sometimes produces models that are not absolutely (metaphysically) possible. Consider, for example, the Gödel universe in General Relativity. Even though the Gödel universe is a solution to the field equations of General Relativity, many people are prepared to argue that it is not an absolute (metaphysical) possibility, based on general theoretical considerations about what is and what is not absolutely (metaphysical) possible. I think that those NATURALISTS who are sympathetic to the kind of position that O'Connor takes on the ontology and epistemology of modality should be prepared to insist that—absent reason to think that alleged fine-tuning is a result of the out-playing of objective chance—we have no good reason at all to suppose that the allegedly fine-tuned features of the visible universe absolutely (metaphysically) could have been different from the way that they actually are.

Of course, even if I am right about the assessment of the three stages of O'Connor's cosmological argument—i.e. even if I am right that NATURALISM trumps THEISM even when the fine-tuning data is taken into account—it still remains to be argued that NATURALISM trumps THEISM when all other kinds of data are taken into account. There are many who suppose, for example, that considerations about the existence and nature of consciousness in the visible universe provide strong reasons for preferring THEISM to NATURALISM (perhaps even reasons sufficiently strong to overturn the results of the assessment sketched above). No one will be surprised to be told that this is not how I see things; I reckon that NATURALISM trumps THEISM when *all* relevant data is taken into account. But, once again, further defence of that contention will need to wait for some other occasion.