

**Scientific, Philosophical, and Religious Cosmology:  
Toward a Reflective Equilibrium**

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I must confess at the outset to an unfashionable attraction to metaphysics. I am fascinated by how the world actually works, driven to know the current state of scientific theory in a variety of fields, committed to particular ethical and political positions, and tied in complex ways to a vision of the world that is ultimately religious. But honesty requires me to admit that, whenever reflecting on or doing work in any of these areas, I'm driven by a deep metaphysical interest: the desire to know what is the nature of reality such that these scientific results or ethical convictions or religious beliefs are valid, if indeed they are. This unfashionable preoccupation is linked to a deep epistemological drive: I want to know whether the conclusions derived from reflection in these various areas can pass as knowledge, or whether they remain mere hopes and hunches. If they are justified, I want to know what degree of justification they have — can one be as certain of her metaphysical conclusions as she is of scientific conclusions, for example?

It's necessary to begin with this embarrassing confession because ours is an age with little patience for metaphysics. One does not simply stand up at professional meetings and say, "Oh, and by the way, what are the metaphysical propositions that you all are assuming in your scientific (or ethical or religious reflection)? Once you've made them explicit, let's take some time to determine whether or not they are true — that is, whether or not they correspond with reality — and then we can go on from there."

In one sense the widespread prejudice against metaphysics is justified. The quest for empirically based scientific knowledge has yielded tremendous fruits over the last decades and centuries, whereas metaphysics seems stuck in endlessly circling discussions of classical texts, texts once held to be authoritative but now read by only a few. The dominant models in the theory of knowledge yield assessments of metaphysical knowledge claims that are uncomplimentary at best. Reading those few serious books and articles that interpret their task as "metaphysical," one has the impression that they either appeal to untestable assumptions about the nature of reality, assumptions that turn out to bear the real probative weight for the conclusions that follow, or they fall into complex distinction-drawing and arguments so convoluted that one must doubt whether consensus on their soundness could ever be reached. Ours is indeed not a metaphysical age — and many would add, "With good reason!" or indeed "Good riddance!"

Now we come to a conference on contemporary cosmology which, rather ambitiously, intends to examine this topic from “scientific, philosophical, and religious perspectives.” The papers prepared run the gamut of approaches:

- \* offering taxonomies of competing views in physical cosmology, philosophical cosmology, or metaphysical world views;
- \* defending a particular proposal in scientific cosmology;
- \* proclaiming the limits of human knowledge on cosmological questions;
- \* providing metaphysical discussions of key concepts used by cosmologists;
- \* showing areas of overlap between scientific cosmology and classic religious questions;
- \* looking for ways that physical cosmology might constrain metaphysical or religious theories
- \* arguing on behalf of one or more particular theories in philosophical or theological cosmology.

In the case of almost every paper, one finds an insistence on the limits of human knowledge in the field of scientific cosmology. The authors’ sense of the severity of these limits varies; some think that results from the sciences can constrain metaphysical reflection, whereas others are doubtful that *any* real constraint takes place. Revealingly, however, *no one* claims to be able to construct a direct argument from scientific results to a particular metaphysical conclusion; in fact, no one even defends a falsification relationship: “scientific result S falsifies metaphysical proposal M.”

Now take these observations about the conference papers and apply them back to my initial claims about the unfashionable nature of metaphysics today and the marginalization of metaphysics in both popular and academic discourse. A little reflection on the papers yields something like the following claims: *Science will not produce a philosophical or a theological cosmology, in the sense that the latter could be directly inferred from the former. Nor can science directly falsify metaphysical proposals of this sort. Indeed, there’s reason to wonder whether science exercises any constraining role at all when it comes to metaphysical cosmologies or world views.*

In view of this not particularly auspicious start, one might well conclude that there’s no point at all in attempting a dialogue between scientific results and metaphysical reflection. But in fact no author actually draws this conclusion. In fact, most argue that scientific cosmology intrinsically raises philosophical questions, invariably relies on metaphysical assumptions, and naturally gives rise to metaphysical reflection. For its part, they suggest, philosophical cosmology should know about and pay close attention to recent results in physical cosmology; it

should be responsive to the science; and, indeed, it would cease to be *philosophically* respectable if it failed to do so. (It would be interesting to know whether participants also thought that *religious* cosmology should be responsive to scientific work in the same way.)

So most of the participants — whom I will take for the sake of argument as representative of the best of contemporary thought in physical and philosophical cosmology — are, despite their clearly voiced epistemic skepticism, by no means advocating a “separationist” or “two-worlds” approach to scientific and philosophical cosmology.<sup>1</sup> As should be obvious, this is a somewhat paradoxical position to be in. It amounts to the claim: *scientific and philosophical cosmology are somehow deeply relevant to each other, such that one divorces the two only at his own peril. Yet any attempt to draw inferences from the one to the other should be regarded with deep skepticism.* Is there any way out of this paradoxical situation and the confusing, if not outright self-contradictory, advice that it offers us?

### **Reflective Equilibrium in Cosmology**

John Rawls’ famous notion of “reflective equilibrium” has been widely used in epistemology.<sup>2</sup> Instead of deducing conclusions in one field from another field, the Rawlsian approach allows one to retain the two fields as separate and distinct. One then takes one’s tentative conclusions in both fields and brings them into contact with each other. Since any lack of fit undercuts the rationality of the agent’s overall position — she finds herself holding epistemically incompatible propositions — she will be motivated to alter her beliefs in one or both fields in order to reestablish a coherence between the two. Note that, using the Rawlsian approach, she can make these adjustments without needing to treat the one side or the other as authoritative and inviolate. The approach harks back to Otto Neurath’s famous metaphor of building a raft in the middle of the ocean. One cannot “ground” one’s construction project upon firm bedrock, for all one really has to hand, as it were, are the various floating pieces and the desire to keep oneself from sinking altogether. So one uses the pieces at hand to fashion the most viable raft possible.

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<sup>1</sup> In fact some authors wish to do philosophical cosmology with little or no attention to the science, and we know that many scientists do their work in astrophysics or cosmology with little attention to, and in fact a high level of disdain for, any form of philosophical cosmology. Obviously these two groups avoid the paradoxical situation I am describing.

<sup>2</sup> John Rawls, *A Theory of Justice*, 2nd ed. (Cambridge, MA: Harvard University Press, 1999); *Political Liberalism* (New York: Columbia University Press, 1996); *Justice as Fairness: A Restatement* (Cambridge, MA: Harvard University Press, 2001); “Outline of a Decision Procedure for Ethics,” reprinted in *Collected Papers*, ed. Samuel Freeman (Cambridge, MA: Harvard University Press, 1999); 1-19; “The Independence of Moral Theory,” in *Collected Papers*, 286-302; cf. S. Freeman, ed., *The Cambridge Companion to Rawls* (Cambridge: Cambridge University Press, 2002), esp. 139-67.

What if one applies the notion of reflective equilibrium to the discussion between scientific and philosophical cosmology? It is unlikely that one could convince all the participants in this conference, much less in the broader community of scholars, to make either scientific cosmology or philosophical cosmology foundational and to derive the other from it (though some authors in fact try to do the one or the other). Some grant epistemic priority to the best attested conclusions of the natural sciences (as I do); others argue that metaphysical reflection is the more fundamental, perhaps because it formulates the necessary truths on which every scientific cosmology must be based. This latter approach takes metaphysical cosmology as having complete universality, since the conclusions of scientific cosmology apply “only” to the merely contingent conditions of this particular universe or “cosmological epoch” (Whitehead), whereas metaphysical cosmology is said to apply to all possible cosmological epochs.

These differences notwithstanding, most of the participants appear to agree that a close dialogue between scientific and philosophical cosmology is desirable, and most hold that it is better to have consonance (coherence) between the conclusions of the two than to have a situation where they stand in tension. Reflective equilibrium begins with this two-fold commitment; it adds that a given individual, or a group of scholars, should acknowledge the areas where tensions lie and work to find modifications on one or the other side that will help to minimize these tensions.

In what follows I would like to defend and explore the implications of two corollaries to the method of reflective equilibrium as it is applied to our particular topic.

(1) *The Idealist Corollary*. The first corollary holds that there should be a fit between what one knows and how it is known (i.e., between metaphysics and epistemology). The sought-for equilibrium, in other words, is between the *content* of what one knows and the *way* one knows it, which includes the means of knowing, the strength of this knowledge, and the limitations on knowing it (or things like it).

One can easily recognize that an existential contradiction arises when one claims to know something and also believes that things of that type cannot be known. But I’ve formulated the Idealist Corollary more broadly in order to draw attention to the more subtle implications of reflective equilibrium. For example, a person’s overall epistemic framework may entail great skepticism regarding a certain type of knowledge, say metaphysical knowledge, even to the point of suggesting that people should remain agnostic on all questions of this sort. Yet one frequently finds those who hold this sort of epistemology making and defending claims in the very areas where they have reason to resist them. For example, people who hold that “all knowledge is

scientific knowledge” will often make robust and unnuanced claims on behalf of physicalism or atheism, both of which are metaphysical doctrines.

A related set of difficulties arises when one formulates principles about what can and cannot be known, without realizing that these principles don’t fall in the realm of what, according to the principles themselves, can be known. This amounts to a sort of self-application paradox: one advances a principle that, when applied to itself, undercuts its own claim. (Compare this to the claim written on a piece of paper, “The statement written on this piece of paper is false.”)

What happens, though, when one takes the negative proscriptions discussed so far and attempts to formulate the *positive* principle that might motivate them? I suggest that they entail that what one knows and how one knows it are inseparable. Put ontologically, the Idealist Corollary amounts to the contention that *there must be a single account of reality and of knowledge that is consistent both with the truth claims that one makes and with the fact that one claims to know these things*. In contexts where epistemic limitations play a major role, such as cosmology, it’s particularly important to develop a unified account of this sort. The need, then, is not only to make claims about what reality is, but also to make claims about how a reality of this sort could be known in the ways we think we know it and with the degrees of certainty (or limitation) that we believe obtain in practice. Many accounts in cosmology fail to achieve this requirement; an even greater number do not even seem to recognize the interconnections between these two dimensions.

(2) The principle of reflective equilibrium has a second corollary as well, which we might call the *Guiding Assumptions Corollary*. Our failure to agree on a single philosophical or religious cosmology might show that most of us are insufficiently rational — except, of course, for the one person whose cosmology is exactly right! — or it might show that cosmology involves questions that cannot be resolved by argumentation alone, no matter how rational one is. As much as I would like to believe that the first option is correct (since this would increase the hope that humanity will eventually agree on a best theory), I fear that the second answer is more likely to be true. To accept the Guiding Assumptions Corollary is to acknowledge that certain underlying assumptions play an indispensable role in making the case for the philosophical and religious cosmologies held by various people in this room. In fact, my own sense is that the unargued (and often unstated) assumptions that vary across the participants in this conference have played the largest role in producing the tapestry of different cosmologies on display in the papers.

Of course, it might be that, if we were able to formulate these different underlying assumptions clearly, it would then become possible to argue for them, evaluate the arguments,

and eventually come to consensus on which are more and which less plausible. But I admit to a high degree of skepticism that consensus would in fact result. (If others agree with this assessment, it would be interesting to discuss why that is and what follows from this fact.) In any case, the only way to find out is to struggle to formulate the working assumptions as clearly as possible. I have the sense that most dialogues between scientists and philosophers on this topic do a fairly poor job of getting the really decisive assumptions onto the table. It would be a worthy goal of our discussions, I suggest, to attempt to bring more of our differing operative assumptions out into the open and then to see what kinds of arguments (if any) can be given on their behalf ... and whether these arguments turn out to be compelling to others as well.

### **Assumptions Underlying a Theistic Cosmology**

With this framework in place, it might be expected that I would then begin pointing fingers at (what I take to be) the implausible assumptions in other people's papers. But assumption analysis is an activity that should really start at home, following the motto, "Why do you see the small assumption that is in your brother's eye, but do not notice the huge, implausible assumption that is in your own eye? ... You hypocrite, first turn your attention to the assumption in your own eye, and then you will see clearly to locate the relatively innocent assumptions in your brother's eye" (loosely based on Matt. 7:3-5).

Authors have written in defense of process cosmologies, and several authors discuss scientific cosmology from the perspective of Christian theism. What then of the intersection set that locates my own work: a theistic cosmology deeply influenced by process thought?

Like ground-of-being cosmologies, theistic cosmologies hold that the universe we observe does not have its ground or reason of existence within itself; it is not self-sufficient but depends on and expresses a deeper level of reality. But unlike the ground-of-being cosmologists, theists believe that this deeper reality from which the cosmos stems and which it reflects is more adequately described as personal than as non-personal. More exactly, we understand this Ground to be not-less-than-personal. Arthur Peacocke presents a classic argument on behalf of this standpoint:

Does not the very intimacy of our relation to the fundamental features of the physical world, its so-called "anthropic" features, together with the distinctiveness of personhood, point us in the direction of looking for a best explanation of all-that-is in terms of some kind of entity that could include the personal? Since the personal is the highest level of unification of the physical, mental and spiritual of which we are aware, it is legitimate to recognize that this Ultimate Reality must be *at least personal*, or *supra-personal* — that is, it will be less

misleading to attach personal predicates to this Ultimate Reality than not to do so at all.<sup>3</sup>

(We return in a moment to the question: What happens if this and similar arguments are not in fact sufficient to compel assent to a theistic cosmology over its competitors?)

Even a minimally theistic cosmology of this sort makes a number of assumptions that distinguish it from its competitors. It holds, for example, that it's more natural to construe the origin of the universe as an intentional act of creation than to imagine it as emanating in automatic, necessary, or impersonal fashion from its ultimate Source. This is a complex position and is not to be equated with simple "creationism." For example, it's possible, as Aquinas thought, that a not-less-than personal ground has *eternally* created the universe, or is eternally creating it. It may well be more obviously consistent with this particular metaphysical hypothesis to conceive the universe as not being eternal in duration, because created at some point by God. But this claim of a creation in time (and what time would that be, precisely?) is not a core assumption of the position.

The theistic hypothesis is more robust if God not only gave rise to the existing universe in a personal fashion but also still interacts with it in a mode that is not-less-than-personal.<sup>4</sup> Making this claim plausible is not as easy as most theists assume, however. For example, certain classical models in philosophical theology described the divine nature in such a way that it would be impossible for God really to know the world in such a way that God could interact with it. Thus, for example, if the early chapters of Aquinas's *Summa Theologica* are right, then God cannot know existing creatures as individuals, in all their contingency, but only the eternal forms that they instantiate as this or that type of thing. On this view God could not know or respond to any contingent fact about any creature. But since the contingent facts about us are the things we hold to be most valuable about ourselves (the sort of character we develop over time, the fundamental convictions that we hold, our most intimate relationships), God cannot have the sort of knowledge of us that would be required for personal interaction with us.

It is the limitations of classical models like this — of substance-based metaphysics, Aquinas's hylomorphism, and a variety of related positions — that have led me to appropriate many features of the understanding of God in process theology. If God is dipolar, then the antecedent nature of God could serve the function of eternal grounding, whereas the consequent nature of God could be involved in the sort of person-like interaction with creatures in the world

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<sup>3</sup> Arthur Peacocke, *Paths From Science Towards God: The End of All Our Exploring* (Oxford: Oneworld, 2001), 42.

<sup>4</sup> If you admit deism as a form of (extended) theism, then this requirement is not essential for theism.

that is crucial for a theistic metaphysic. There are also technical reasons for understanding the divine being as dipolar, which I find particularly well argued in the work of Friedrich Schelling.<sup>5</sup> Only by both frameworks, I have argued, using in this way can one understand God both as the ground of being and as an existing being (*der Grund des Seins* and as *das höchste Seiende*).

The biggest challenge today to the notion of a God who interacts with the cosmos comes however not from competing metaphysical models that approach the same topic with slightly different assumptions and arguments, but from those whose challenge to this metaphysic is drawn from other sources altogether. The first set of objections is posed as a scientific objection, and physics here plays the leading role. Work in physics has generally assumed what philosophers of science call the “causal closure of the physical,” which holds that the universe as a whole is a closed system of matter and energy, immune to any causal influence from the outside. But as the work of Alexander Vilenkin and others shows, there are now attractive cosmological models in which a universe can be produced by other universes and can give rise to offspring universes of its own. Lee Smolin’s evolving universes model allows for the same sort of inter-universe effects, as do some cosmological models arising out of string theory. And of course few if any actual physical systems within the universe are thermodynamically closed. We can work fruitfully with equations that presuppose idealized systems that are causally closed, even if the actual systems that one hopes to model (either subsystems within this universe or the universe as a whole) don’t meet the conditions of these idealizations.

Once one has given up the causal closure of the physical as an ultimate framework for scientific cosmology, the context also changes in some ways for philosophical cosmology. For example, it becomes possible in principle to conceive some sort of divine influence or “lure” on objects within the universe. Although this is a significant recognition, it’s not the end of the road. Two other factors in particular constrain the space within which a theistic metaphysic might work, one drawn from science and the other from the philosophy of religion.

Many of the types of actions traditionally attributed to God, if they occurred, would make science as we know it impossible. The obvious example involves direct interventions that would produce physical states different from those predicted by the laws of physics. Even if the community of experimental physicists could never catch God red-handed, as it were, merely knowing that a physical system could at any instant begin acting in a manner completely inconsistent with natural law thanks to a divine intervention would be enough to undercut the practice of science.<sup>6</sup> That surfaces another assumption, the assumption that theists should avoid

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<sup>5</sup> See Clayton, *The Problem of God in Modern Thought* (Grand Rapids: Eerdmans, 2000), chap. 9.

<sup>6</sup> This argument is developed in greater detail in Philip Clayton and Steven Knapp, “Divine Action

holding positions that (directly or by implication) make the practice of science impossible. The reason to accept this assumption is that science represents the most rigorous form of knowledge currently available to humans, and it does not make sense to rule out that form of knowledge based on arguments from a field of study that is less rigorous than the one it would (implicitly) eliminate.

It turns out, however, that there are ways to understand divine influence on creatures within the world that do not undercut science or make it impossible. As long as the influence of a not-less-than-personal ultimate ground occurs in such a way that the laws of nature are not overturned, i.e. no external interventions occur that make natural systems function differently than they would otherwise, then no laws of nature are broken. In other words, if the ultimate principle exercises an influence on agents in the world but does not overwhelm or replace their agency, for instance by working as an exception to natural regularities, then the scientific study of the world is not rendered otiose. Some of the most interesting work in theistic cosmology today lies in this area.

Claims about divine action are limited, perhaps just as strongly, by the problem of evil. Steven Knapp and I have argued (see n.6) that a divine self-limitation imposed across the board might be justified by the greater good that could result from God limiting God's powers in this way. For instance, a divine self-limitation might be the only means to allow independent finite agents to arise within the universe and to develop complex forms of rational and moral agency. But a self-limitation applied in some cases and not in others — say, a God who allows one person to suffer without intervening while stepping in to reduce the suffering of another — raises charges of inconsistency that, on my view, theists will not be able to answer, at least not without a rationality-stultifying appeal to mystery.

### **Cosmology and the Concept of Person**

To this point I have been laying out some of the framework assumptions that underlie a theistic cosmology, though there is of course much further to go. Some standard theistic beliefs, we found, including some widely held traditional beliefs, conflict either with the practice or the conclusions of cosmology and other physical sciences. Where the conflicts turn out to be unresolvable, I argued, one is compelled to modify or abandon these beliefs. Up to this point, it seems, the method of reflective equilibrium has served us well; no intrinsic incompatibilities have arisen.

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and the 'Argument from Neglect,' in a forthcoming volume edited by Robert J. Russell and Nancey Murphy (Vatican Observatory Press, forthcoming 2007).

But, my opponent might argue, one troubling assumption of theism remains. Why would one wish in the first place to add the concept of person into cosmology? Or — since it's obvious that this cosmos does include some persons — why would one think that the category of personal is more ultimate than the category of the impersonal? Why not hold instead that we represent small collections of person-like properties that have arisen in a much vaster spatial and temporal context which otherwise lacks these qualities altogether? John Polkinghorne, paraphrasing Steven Weinberg's oft-cited claim, "The more the universe seems comprehensible, the more it also seems pointless," puts it rather more dramatically: "All culture, including science, will be no more than a transient episode, but while human society lasts it represents a small island of self-created meaning, around which laps the ocean of cosmic meaninglessness."<sup>7</sup>

I cited an argument from Arthur Peacocke above: "Since the personal is the highest level of unification of the physical, mental and spiritual of which we are aware, it is legitimate to recognize that this Ultimate Reality must be *at least personal*, or *supra-personal* — that is, it will be less misleading to attach personal predicates to this Ultimate Reality than not to do so at all." Peacocke seems to intend something like the following argument:

- (1) Metaphysics is the quest for a unified account of ultimate reality;
- (2) The category of the personal is "the highest level of unification of the physical, mental and spiritual of which we are aware";
- (3) Therefore, the most adequate final explanation should employ the categories of personhood as part of its account of what ultimately exists.

Of course, this argument assumes that a unified explanation is better than a non-unified explanation. I have argued that the quest for such unification is basic to the metaphysical project. One can opt out of this project or substitute for it a different one, but to the extent that one engages in metaphysical reasoning one is involved in this same quest for unitary and final explanation.<sup>8</sup>

Note that Peacocke's argument assumes that an account of all-that-exists will only be satisfying to humans if it can include the nature of human existence within its overall explanatory account. Otherwise our existence as persons — as the ones asking the questions in the first place — is not ultimately unified with what is (cf. the Idealist Corollary above). Theistic cosmologies interpret this result as the requirement that the category of the personal be taken as

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<sup>7</sup> Add John Polkinghorne ref.

<sup>8</sup> Still, I can imagine someone citing Zoroastrianism or similar positions against my claim.

more fundamental than the impersonal. On this view, ultimate reality is not-less-than-personal. We might call this the Personalist Thesis.

Now one can imagine that the critic would respond, “But why think that what we hope for really is the case? Why isn’t it equally as likely that persons are the exceptions within an ultimately impersonal universe? We may prefer that personal qualities are explained by the fact that the ultimate ground of what-is is itself personal. But why couldn’t such qualities also be explained by natural processes which produce ‘personally ordered systems,’ even though the processes themselves are not personal in any way?” Of course, it *is* possible that persons are the products of completely impersonal forces and that nothing like intelligence precedes our own emergence. In another paper (“Why Must ‘God’ Be Personal?”) I explore the arguments on both sides and make the strongest case I can for the preferability of personalist over impersonalist metaphysical accounts. Still, the results are not strong enough to compel one to the position that ultimate reality must be not-less-than-personal. No matter how complex and well argued are the theistic cosmologies that one puts forward, a number of viable responses remain open to the impersonalist. The simplest, perhaps, and by no means the least effective, is to respond, “No matter how satisfying you make your account, I remain unconvinced. For I deny any link between ‘satisfying account’ and truth. Why couldn’t the account that’s *least* satisfying to human reasoners be the true one?” How could one rule this possibility out a priori?

### “At-Homeness”

A bit of reflection on this seeming stalemate unearths a final frontier of assumptions. We might gather them together under the question: Are we at home in the universe? It turns out that the set of beliefs about whether or not humanity is “at home” in this sense represents a sort of ultimate framework assumption for philosophical cosmology. (Of course, it represents an equally fundamental religious question as well.) And yet, it appears to be an assumption one cannot resolve by rational argumentation. For example, the discovery of extra-terrestrial intelligent beings might be taken to increase the strength of the case that intelligence, at least, is “at home” in the universe. Yet a million intelligent civilizations could be just as futile as one, if their ultimate fate is to die out without succession in an eternally cooling and expanding universe. What Nietzsche writes of humanity could apply equally well to the entire collection of forms of intelligent life:

Once upon a time, in a distant corner of this universe with its countless flickering solar systems, there was a planet, and on this planet some intelligent animals discovered knowledge. It was the most noble and most mendacious minute in the history of the universe – but only a minute. After Nature had breathed a few times their star burned out,

and the intelligent animals had to die.<sup>9</sup>

Conversely, the discovery that the earth held the only instances of intelligent life that had ever existed in this universe (though how could we ever “discover” that?) would not absolutely prove that we are *not* at home in the universe, for our existence could still be part of a purpose that underlies all-that-exists.

As long as one cannot produce a way to prove that the category of personhood provides a more ultimate explanatory framework for the universe, claims to that effect remain at the level of assumption. But here reflective equilibrium can do its work. Let’s assume that there are in fact consistent positions — coherent collections of scientific, philosophical, and religious conclusions — built on the premise that we are not “at home” in this sense. On these views, core human strivings — to comprehend the universe, to establish justice, to find a correspondence between what we value and what is — find no particular support in the nature of the universe. One might *wish* to comfort those whose lives include incomprehensible suffering (whether at the hands of nature or at the hands of persons who do them intentional harm), or at least to comfort the families of such victims. After all, one recognizes that for many the proportion of suffering to satisfaction is so skewed that only the hope of immortality could bring any comfort, and one might well wish to be able to hold out at least the *hope* of such a future state. Or, alternately, one might wish to offer at least the encouragement of a process metaphysic: that God is present to every actual entity as its initial aim, that God knows and shares in the joy or suffering of every moment of existence of every occasion, and that every aspect of their experience is retained as data within the divine experience (“objective immortality”), eternally present to and valued by God. But, on this view, one should resist all of these temptations, maintaining instead that there are insufficient grounds for going beyond the framework of contemporary scientific cosmology.

Here’s where reflective equilibrium might play an interesting role. Reflective equilibrium in general, and the Idealist Corollary in particular, requires one to correlate one’s metaphysic (among other things) with one’s religious or affective construal of human existence. Of course, it’s possible that one could have drawn (or in the future will be able to draw) entailment relations from one side to the other. Many have believed that, given science, theism is less likely than its metaphysical rivals; others have held that they could prove the truth of theism from (say) our desire for meaning or from the existence of purposive systems in the universe. What happens, though, if we assume, as this paper has sought to show, that neither type of attempt is successful at present?

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<sup>9</sup> Friedrich Nietzsche, “Ueber Wahrheit und Lüge im aussermoralischen Sinne,” *Nietzsche Werke*, ed. Giorgio Colli andazzino Montinari (Berlin: Walter de Gruyter, 1973), Pt. 3, vol. 2., p. 369.

The first consequence is that a philosophical cosmology does not have to serve any religious functions to be possibly true. It does not have to support (or in any way correspond with) our ethical strivings, our sense of beauty, our drive for justice, or our hopes for the final future of the universe. In fact, it does not have to provide any satisfaction of any kind to the human inquirer in order to be possibly true. What happens if the quest for a cosmology in which individual selves and communities are “at home” within the universe is taken to be irrelevant to one’s decision between rival cosmologies; does this move change the rational assessment of rival cosmologies? It seems to me that, if all such desires of those who do cosmology are bracketed out, then theism does indeed come out in last place. If, by contrast, the religious sense of “at-homeness” in the universe is admitted as a factor in establishing reflective equilibrium, then theism fares rather better.<sup>10</sup>

Let me put the point differently. There are many existentialist or nihilist theses about human existence in the universe and no way to show definitively that they are false. (Of course, denying at-homeness does not make a position automatically preferable either, though this is sometimes assumed in debates on philosophical cosmology). Likewise, the fact that a world view is satisfying is not final evidence that it must be true. Many comforting beliefs are false — though not, of course, all. Given the degree of epistemic skepticism defended here, we are limited to correlations and the quest for consistency between the beliefs that we do hold. It follows that, *if* one wishes to preserve certain traditional religious functions — grounding the quest to be compassionate or altruistic ontologically, providing reasons for hope in a future more just than the present — then one must advance a cosmology that in fact supports these functions. And certain of these functions in particular are best supported by the Personalist Thesis. Non-personalist metaphysics can offer the hope of release, of freedom from illusion, or of an ultimate merging with the One, either as an actual transformation of self or as the overcoming of the illusion of self. But they cannot offer the *individual* a hope for her continuing existence or reconciliation with all-that-is. In particular, they cannot hold out any version of eschatological hope.

This argument raises an obvious objection. A critic might respond, “But religious concerns of the sort just listed should be irrelevant to philosophical cosmology. The most rational thing to do is to build one’s cosmology solely upon scientific foundations. And science certainly offers no sense of the ultimacy of personalist explanations.” This observation about science is correct.

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<sup>10</sup> In fact, a wide variety of cosmologies would seem initially to satisfy the Personalist Thesis, many strands of the Vedanta traditions as much as the Abrahamic traditions. I do not here address the question whether any criteria could be found for selecting between them.

More problematic, however, is the claim that *philosophical* cosmology should be built solely and directly from scientific cosmology. The two-way connections that most of the conference papers presuppose between scientific and philosophical cosmology stand in tension with the unidirectional assumption of this objection. Most of the authors seem to presuppose, as I do, that scientific cosmology underdetermines the choice between philosophical cosmologies. Since we must also look elsewhere in our quest to substantiate a philosophical cosmology, it is arbitrary to rule out the set of religious concerns from the start as inappropriate considerations; they may well take their place among the factors that influence one's decision among cosmological options.

Reading these words, one cannot be blamed for linking my position in some way with the famous treatment that William James gives to the rationality of belief. James attempted, in a not altogether dissimilar manner, to defend the reasonableness of allowing religious considerations to influence one's thoughts and actions.<sup>11</sup> For James also, however, not just any religious idea could be allowed such sway, but only those that were "living," "momentous," and "forced."<sup>12</sup> For many of us, at least, the question of whether we are "at home in the universe" is living, and for all it is momentous. At first blush, however, the rarified debates of philosophical cosmology would not seem "forced," for if on any issue I could afford to speculate at leisure, it would seem to be the question of the ultimate nature of the universe. Yet, I suggest, this appearance is deceiving. As James notes in the same essay, "Moral questions immediately present themselves as questions whose solution cannot wait for sensible proof." At least some instances of my behavior toward others, as I've shown above, are indeed affected by the cosmology one holds; and, as James adds, "there is no standing place outside of the alternative." Not that the denier of

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<sup>11</sup> James put the point rather more forcibly: "When I look at the religious question as it really puts itself to concrete [persons], and when I think of all the possibilities which both practically and theoretically it involves, then this command that we shall put a stopper on our heart, instincts, and courage, and wait-acting of course meanwhile more or less as if religion were not true ... till doomsday, or till such time as our intellect and senses working together may have raked in evidence enough, — this command, I say, seems to me the queerest idol ever manufactured in the philosophic cave" (William James, "The Will to Believe," An Address to the Philosophical Clubs of Yale and Brown Universities, first published in the *New World* [June, 1896], widely anthologized and available on the web e.g. at <<http://falcon.jmu.edu/~omearawm/ph101willtobelieve.html>>, verified October 2, 2006.)

<sup>12</sup> "Next, let us call the decision between two hypotheses an option. Options may be of several kinds. They may be: (1) living or dead; (2) forced or avoidable; (3) momentous or trivial; and for our purpose we may call an option a genuine option when it of the forced, living, and momentous kind." See James' essay for definitions of these terms.

at-homeness will necessarily live a less moral life; to the contrary, one finds great moral exemplars on both sides of the personalist-impersonalist line. But what one is in a position to say *to others* varies depending on one's view of the origin and fate of the universe; and these differences are morally significant differences.

One final worry requires a response: Does the position that I have defended represent a defeat for all rational discussion of cosmological issues? After all, if that core religious striving to find a way to conceive our "at-homeness" in the universe can be admitted as a *bona fide* influence in the debate among cosmological models, then why can't any and all subjective preferences be admitted as well? Why not the belief in an emerging "noosphere" (Teilhard de Chardin), or a belief in a heavenly Paradise for all those who die as martyrs for their faith — or, for that matter, the belief that some of us are merely brains in a vat whose impressions are being introduced by evil scientists at the controls of a massive computer? Why should we not become complete agnostics when it comes to the rational evaluation of cosmological claims?

But in fact nothing has changed between the epistemological sketch that opened this paper and the conclusions it has defended in the end. To argue for the irreducible place of background assumptions as I did in the early pages was already to acknowledge a certain level of rational undecidability. That acknowledgment, I suggest, should come at the beginning of cosmological reflection, not at the end — which underscores the need for the sort of excursus into the theory of knowledge that set the stage for this exploration. Once one has acknowledged that there is no assumption-free way to pursue cosmology, the possibility of rational discussion *starts*, not ends. That is, it then becomes possible for discussants to try to state their positions more clearly, to excavate their underlying assumptions, to offer reasons in defense of those assumptions, to alter their assumptions in response to criticism, and so forth. Above all, I've argued, one has to submit oneself to the test of reflective equilibrium. This includes considering carefully what one wishes to say on the religious side and what religious functions one wishes one's cosmology to serve. (Note that part of this discussion will be the difficult question of whether the religious expectations are reasonable or not.) Only then can one ascertain whether one's cosmological claims about reality are consistent with those goals. Likewise, it's necessary to examine whether *what* one wants to say about reality, and *how strongly* one wishes to advance the knowledge claims associated with one's standpoint, are consistent with the epistemological framework with which one begins (or: to which one tacitly appeals in the course of his or her argumentation).

I am not so sanguine as to believe that, when all these constraints are in place, a single cosmological model will emerge as rationally persuasive for all. I would contend, however, that pursuing the debate among diverging philosophical cosmologies isn't pointless. For it does allow us to rationally hone our views, to find some views increasingly dissatisfying, and to

narrow our sense of which are the most powerful among the competing options. And this is not nothing.<sup>13</sup>

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<sup>13</sup> Portions of the argument were developed in direct discussions with Steven Knapp of Johns Hopkins University, whose role in helping to formulate these positions I gratefully acknowledge. These discussions have also indirectly influenced the broader epistemic framework of this paper.