ORIGINAL ARTICLE

Stop Asking Why There's Anything

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Abstract Why is there anything, rather than nothing at all? This question often serves as a debating tactic used by theists to attack naturalism. Many people apparently regard the question—couched in such stark, general terms—as too profound for natural science to answer. It *is* unanswerable by science, I argue, not because it's profound or because science is superficial but because the question, as it stands, is ill-posed and hence has no answer in the first place. In any form in which it *is* well-posed, it has an answer that naturalism can in principle provide. The question therefore gives the foes of naturalism none of the ammunition that many on both sides of the debate think it does.

1 Introduction

Why is there anything, rather than nothing at all? Leibniz called it "the first question that should rightly be asked" (1714, p. 527), and Heidegger called it not only "the fundamental question of metaphysics" but "the first of all questions" (1959, p. 1). Nowadays the question more commonly comes up as a debating tactic used by theists to attack naturalism. Many people apparently regard the question—couched in such completely general terms—as too profound for natural science to answer. It *is* unanswerable by science, I'll argue, not because it's profound or because science is superficial but because the question, as it stands, is defective, ill-posed, and hence *has* no answer. In any form in which it *is* a well-posed question, it has an answer that naturalism can in principle provide. The question therefore gives the foes of naturalism none of the ammunition that many on both sides of the debate think it does.

In short, we ought to stop asking "Why is there anything?" The utterance is a pseudo-question if construed at face value and, at best, a tendentious way of asking

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other questions that *are* well-posed and answerable, in principle, by science. Better, then, to ask those other questions instead. My argument applies equally to variants of the same question that one also often sees, such as "Why is there something (rather than nothing) (at all)?" I don't claim that my argument dissolves *every* question we might ask about the origin of the cosmos, only that we ought to stop asking various pseudo-questions about it that philosophers and ordinary folk commonly do ask.

2 The Context

Naturalistic objectors to theism say that the state of today's science makes us less in need of God to explain the workings of the universe than even Laplace was, who two centuries ago famously claimed no explanatory need for God at all. Naturalists point to the many phenomena we used to attribute to supernatural agents but can now explain scientifically: the change of seasons, the course of a disease, the orbits of planets, and on and on. Their theistic opponents often admit that natural science has discovered not only good piecemeal explanations of the existence of particular phenomena but even good integrated explanations of the existence and operation of entire systems. In this sense, the opponents concede that natural science can answer not only mechanistic "how" questions but also existential "why" questions, such as "Why are there penguins?" or "Why is there cancer?" Yet they hasten to point out that natural science hasn't explained why there exists anything *at all*: not specific things or kinds of things but anything in the first place, anything in general.

But what, more precisely, is this theistic challenge to naturalism? Pretty clearly the challenge isn't to explain the existence of metaphysically necessary things, since in those cases there's no contrasting state of affairs, no state of affairs in which they don't exist, that could have obtained instead.¹ Rather, the challenge is to explain the existence of contingent things, those things that didn't have to exist, and even then only some contingent things. If the singleton set containing Mars exists, it exists contingently, since its only member exists contingently and sets owe their identity to their members. But if the set {Mars} exists, it exists abstractly, and presumably it's not {Mars} the set but Mars the planet whose existence naturalism is expected to explain. In other words, the challenge to naturalism expressed in the question "Why is there anything?" doesn't seem to rest on the assumption that theism explains the existence of *abstracta* better than naturalism does—especially because, if there are abstracta, then some of them (say, the integers or the law of noncontradiction) seem both uncreatable and independent of God. Instead, the challenge is meant to invoke only those contingent things that are also *concrete*, i.e., that exist in spacetime. Properly put, then, the challenge to naturalism is that natural science may do a fine job accounting for *particular* contingent, concrete things and kinds of things, but it isn't equipped or even meant to tell us why any such things exist at all.

¹ Philosophers, including Leibniz himself, typically interpret the "first question that should rightly be asked" as referring only to those things that could have failed to exist. See van Inwagen (1996, pp. 95–96) and O'Connor (2008) among the many recent treatments that interpret the question this way.

Many philosophers have taken seriously the theistic challenge "Explain why there's anything contingent and concrete at all" and have tried to answer it with metaphysical arguments.² Other philosophers regard the challenge as well-posed but sufficiently met if natural science can explain the existence of each *given* contingent, concrete thing. Their spokesman is Hume's Cleanthes: "Did I show you the particular causes of each individual in a collection of twenty particles of matter, I should think it very unreasonable, should you afterwards ask me, what was the cause of the whole twenty. This is sufficiently explained in explaining the cause of the parts."³ This latter group, however, faces opponents who say that a well-posed question remains even if science can provide each of those particular explanations: the question "Why are there *these* contingent, concrete things rather than none at all?" Their spokesman is Hume's Demea: "The question is still reasonable, why this particular succession of causes existed from eternity, and not any other succession or no succession at all."⁴

It's not just philosophers who take the theistic challenge seriously; so do some much more visible contributors to our culture. Even as battle-hardened a critic of theism as comedian Bill Maher, co-producer and star of the irreverent documentary *Religulous*, is stumped by the challenge and softens his position as a result. Plugging his documentary on an episode of CNN's *Larry King Live*, Maher confessed the following about the existential questions allegedly answered by theism:

[Y]ou just give yourself a headache thinking about them. I mean, if you start thinking about these things, you kind of get down to "Why is there anything?" Try to ponder that one afternoon if you're not high.... See, there may be answers. I'm not saying that there isn't something out there. I'm not strictly an atheist. An atheist is certain there's no God. [Maher 2008]

In the face of the challenge, then, some of the world's most visible atheists think they need to disavow atheism and retreat to mere agnosticism.

3 Dummy Sortals and Pseudo-Questions

But they needn't. The question "Why is there anything?" deserves no reply, because it's ill-posed for a reason that the following example, I believe, helps to

² Recent examples include Goldstick (1979), Lowe (1996), van Inwagen (1996), Lowe (1998, ch. 12), Grünbaum (2004), Rundle (2004), all of which give non-theistic answers; O'Connor (2008), which gives a theistic answer; and Parfit (1998), whose answer is harder to classify. I find it curious that Lowe takes seriously the challenge "Why is there anything?" given his many persuasive defenses of a sortalist ontology of the kind I'm using to dismiss the challenge as ill-posed (e.g., Lowe 1989, ch. 2). Taking the challenge seriously forces Lowe to defend two highly contentious claims: (i) infinitely many sets and natural numbers exist but, remarkably enough, not the empty set or the number zero; (ii) every possible world contains at least one concrete object, even if no concrete object exists in every possible world (Lowe 1998, pp. 254–255). For a sortalist like Lowe, (ii) implies that although there needn't exist pens, or plums, or penguins (and so on, for every sortal), it's metaphysically necessary that, at all times, there exists some concrete object or other belonging to some genuine kind.

³ Hume (1779, p. 66). Edwards (1967) endorses this position, as is well known.

⁴ Hume (1779, p. 64). Burke (1984) endorses this position, citing also Rowe (1975) as endorsing it.

make evident. Hold a capped ballpoint pen in your otherwise-empty hand. Now consider the question "Exactly how many things are you holding in your hand?" You can't answer the question if it's posed in those terms. Are you supposed to count both the pen and its cap? The question, as posed, doesn't imply one answer or the other. (If you remove the cap from the pen and hold both in your hand, why are you now holding two things in your hand if before you held just one?) What about the pen's barrel shell, ink cartridge, and metal tip? What about arbitrary "proper parts" such as various one-centimeter cross-sections of the barrel shell? You'll get uncountably many such cross-sections if you're allowed to vary their starting or ending boundaries across a continuum of spatial points; countably many (but in principle indefinitely many) such cross-sections if you can vary the boundaries only discretely rather than continuously. Why not also count each of the quarks and electrons that standard physics says constitute the pen—and their proper parts too?

It might seem as though we can say that either you're holding exactly Q things, where O is the countable infinity of the rational numbers, or you're holding exactly R things, where R is the uncountable infinity of the reals. We might say that you're holding exactly Q things if the boundaries of things can have only discrete values, or exactly R things if boundaries can vary continuously. But "Exactly Q or exactly R" is hardly a straight answer to "Exactly how many?" especially since R, having uncountably more members, is vastly larger than Q. Now, some considerations from mereology suggest that the number of things you're holding can't be as small as Q, even if boundaries vary only discretely. For suppose you're holding exactly Q things. Each of those Q things (and each of its parts) is arguably itself a part in various fusions with other of the Q things you're holding (and their parts), one fusion for each non-empty, non-singleton subset of those things (and parts). But, for Cantorian reasons, those subsets outnumber the Q things you're holding, even if we rule out fusions consisting of already overlapping parts; the number of those subsets has a cardinality of at least R. So you're holding at least R things even if boundaries vary only discretely. If boundaries vary continuously, then you're holding at least R things even before we consider fusions, and thus you're holding many more than R things when we include fusions. Furthermore, if two distinct things can share all of their parts—as many would say occurs in the case of a gold ring, for instance, and the lump of gold that constitutes it-then you're holding even more things than the fusions you're holding, whether or not boundaries vary continuously.⁵

Clearly things are getting out of hand, if you'll excuse the pun. It emerges that the question of exactly how many things you're holding *has no answer*, or at the very least it has no answer that anyone could reasonably fault naturalism for failing to provide. Even if you allow only three-dimensional objects into your ontology, you'd first have to settle whether mereological sums and arbitrary undetached parts ought to count as things you're holding, and if so exactly how many of those ought to count. Even if mereological sums qualify as things you're holding, the question

⁵ I assume that (a) boundaries can have all the rational values in some interval even if they can have only discrete values in that interval, which in turn assumes that (b) there's no smallest possible change to a boundary. If we deny (b), then the number of things you're holding will be finite even if we include fusions. Again, however, "Exactly R or exactly some finite value" is hardly a straight answer to "Exactly how many?" I thank Geoffrey Mason for flagging my assumption of (b).

remains unanswered whether various particular fusions of the pen (or parts of the pen) with any of various atoms of hydrogen elsewhere in the universe also qualify as things you're holding. It certainly seems they could: you're holding all but the tiniest fraction of their mass, and common sense allows that you continue to hold a *pen* even if an atom of its mass escapes to the surrounding air. (If these sums count, however, then the number of things you're holding positively soars.) But metaphysicians can't agree that these subsidiary questions even *have* answers, and so at the very least naturalism can't be worse-off than theism for failing to answer them when theism also fails to answer them. The question "Exactly how many things are you holding?" comes no closer to having an answer if we restrict 'things' to 'contingent things', 'concrete things', 'physical things', 'material things', 'cylindrical things', 'macroscopic things', 'plastic things', 'metal things', or indeed 'things' modified in any familiar way.

There's a straightforward, if often overlooked, reason why it lacks an answer. The term 'thing' is what David Wiggins (1967, p. 29) calls a dummy sortal, a term that (despite how it may sometimes appear) fails to denote a genuine kind of object— 'object' being another dummy sortal, along with 'individual', 'item', 'entity', 'being', and (in the metaphysical sense) 'substance'. Such terms lack criteria of identity governing the instances that are supposed to fall under them, and hence there can be no correct answer to the question of exactly how many things (objects, individuals, items, entities, beings, substances) occupy a given location or to the question "Exactly which things exist?" if we construe 'things' in an unrestricted way (Thomasson 2007, p. 113). Even though such dummy sortals function grammatically as count nouns, they don't function logically as count nouns (Lowe 1989, pp. 11, 25), and thus the senselessness of the literally meant question "Exactly how many things are you holding?" arises from its confusion of grammatical and logical function. Criteria of identity also supply conditions for the *persistence* of the instances they govern, which explains why you can't answer the question "Did the thing(s) you're holding survive the last ten seconds?" if you construe it at face value. One potential referent of 'thing' is a collection of matter having perfectly precise spatial boundaries, whose precision therefore means it probably didn't survive even that long.

By contrast, the term 'pen' functions both grammatically and logically as a count noun, and so the question "Exactly how many pens are you holding?" admits of a right answer: "one" if our common-sense ontology is true, "zero" if it isn't (if, say, the fuzzy boundaries that common-sense objects must possess are incoherent). Similarly, the questions "Exactly which pens exist?" and "Did the pen you're holding survive the last ten seconds?" have right answers depending on whether our common-sense ontology is true and on the empirical facts.⁶

⁶ Although I assume that common-sense objects have fuzzy boundaries if such objects exist at all, the problem I've raised for the "fundamental question" doesn't *stem* from vagueness. Even if all of the objects you're holding have perfectly precise boundaries (in which case, again, you can't hold them for long), the questions "Exactly how many objects are you holding?" and "Why do these objects exist?" are too unspecific to admit of answers. Why do I add the qualification that the well-formed counting questions have right answers "depending on whether our common-sense ontology is true"? Only because, despite my sympathy for theories such as Thomasson's (2007, 2009) that see "the truth of our common-sense ontology" as a pseudo-issue, I'm not yet convinced that sorites arguments against ordinary objects can be rebutted in either of the two main ways Thomasson considers: supervaluationism and Tye-style

To be sure, sortalist theories aren't without controversy, but despite the controversy we can see from the foregoing considerations the deep confusion in the literally meant questions "Exactly how many things are you holding?" and "Did the thing(s) you're holding survive the last ten seconds?" These considerations, I believe, also show that the question "Why is there anything?" (i.e., "Why is there any thing?") confuses grammatical and logical function and hence necessarily lacks an answer, even though the question "Why are there any pens [or plums, or penguins]?" has an answer. Only the latter sentence contains a true sortal,⁷ a term whose presence allows the sentence to ask a genuine question. But it's also a question that there's every reason to think natural science can answer. Once we abandon the ill-posed "fundamental question" in favor of a question that invokes only true sortals, we no longer get the sense that natural science can't in principle answer it.

Some people regard the "fundamental question" as one that science can't answer because all science can do is explain the existence of particular contingent, concrete things by reference to *other* contingent, concrete things, which always leaves unanswered the question "Why are there any contingent, concrete things in the first place; why are there any such things at all?" This view of scientific explanation seems to have motivated the logical positivists to reject "Why is there anything?" as a pseudo-question. But their reason for rejecting it seems to me a less basic reason than the one I'm offering here, i.e., that the question's reliance on the dummy sortal 'thing' leaves it indeterminate what's being asked. By the same token, I'm also not rejecting the question on the basis of the positivists' verificationist criterion of cognitive significance, a widely discredited reason for rejecting a whole range of metaphysical questions. Nor do I think the best reason for rejecting the question as ill-posed is the reason that (so far as I can tell) Wittgenstein gives for rejecting it, namely, that the relevant attitude can't grammatically or sensibly be expressed as a question: "Think for example of the astonishment that anything at all exists. This astonishment cannot be expressed in the form of a question, and there is also no answer whatsoever. Anything we might say is a priori bound to be mere nonsense" (quoted in Waismann 2005, p. 68). In my view, the "astonishment that anything at all exists" is senseless even before it prompts or becomes a question, unless "anything" is replaced by, or interpreted as a substitute for, some true sortal.

The same points about grammar and logic show that we can't make the "fundamental question" any better-posed by recasting it in terms of other nongenuine sortals, such as 'fact', 'state of affairs', 'situation', 'event', or 'cause'.⁸ The question "Why have any events at all occurred?" for example, is no better-posed

Footnote 6 continued

indeterminism. It would, however, take me too far afield here to explain exactly why I'm not yet convinced.

⁷ More precisely, a true *substance* sortal.

⁸ Marcus (2006) argues persuasively and in detail for the claim that 'event' is not a true sortal. For the reasons Marcus gives in regard to 'event', I'd include 'cause' (as in Demea's "why this particular succession of causes," discussed above) among dummy sortals as well. Given the arbitrariness, or interest-relativity, involved in identifying one event but not another as a 'cause', the question "Exactly how many causes occurred in the last hour?" looks just as unanswerable as the other pseudo-questions we've identified.

than the question "Exactly how many events occurred in the last hour?" By contrast, the questions "Exactly how many human births occurred in the last hour?" and "Why have any human births at all occurred?" avoid the meaninglessness that comes from the former questions' use of dummy sortals, but they also look susceptible to naturalistic answers.

To put matters in the formal mode, the terms 'thing', 'object', and so on, don't refer unless they're meant as abstractions from—or are 'covering uses'⁹ of terms generalizing over—what there really is: pens, plums, human births, explosions, and so on.¹⁰ Moreover, I should emphasize, the distinction between grammatical and logical function applies strictly speaking to the *concepts* corresponding to the English terms 'thing', 'object', 'event', and so on (compare Wiggins 1967). Therefore, my complaint about the "fundamental question" isn't answered by posing the question in a language using different terms to express those same concepts.

The nature of my complaint may become clearer if we imagine the following exchange:

- A: Why is there anything?
- B: What do you mean? Are you asking why numbers exist?
- A: No. If numbers exist, they *had* to exist. Why is there anything that didn't have to exist?
- B: So you're asking why there are any contingent things. Well, there are pens, which are contingent things, and here's how pens come to exist—
- A: —No! I'm not asking why there are any pens.
- B: All right then. Penguins exist, and they're contingent. Penguins evolved from—
- A: —No! I'm not asking why there are penguins either. I'm asking why there are any contingent things at all.

B's answers may seem deliberately obtuse, but they bring out the emptiness of A's questions: A rejects each of B's attempts to supply determinate content to the dummy sortal 'contingent things', but without such content there's no determinate question being asked. Once 'contingent things' takes on content (e.g., in one of the ways B suggests), the resulting question becomes empirical and scientifically answerable.

Or suppose I mention pens, plums, and penguins. You then ask me, "Why are there any of the things you just mentioned?" but tell me you don't want explanations of the existence of pens, plums, or penguins in particular; instead, you want to know why there are *any* of the things I just mentioned (with table-pounding emphasis on 'any') rather than none at all. Clearly your attitude is perverse: 'the things I just mentioned' is only a covering term for pens, plums, and penguins; it doesn't pick out a category of thing requiring an explanation beyond those I was

⁹ I owe the label "covering use" to Thomasson (2007, p. 117, et passim).

¹⁰ To use the material mode, there are no (i.e., it is not the case that there are any) things, objects, items, beings, substances, facts, states of affairs, situations, causes, or events as such. In sum, if one insists on answering the question "Why are there any things?" at face value, the best answer is "There *aren't* any".

already prepared to give and you didn't want to hear. Likewise for 'contingent things' and the other dummy sortals I've discussed: there *aren't* any contingent things whose explanations outstrip the explanations available for the individuals covered by the covering term 'contingent things'.

For the same reason, we can see that the question "Why does the Universe exist?" taken in the way that objectors to naturalism must intend it, also poses no unanswerable challenge to naturalism, for it amounts to asking (again) "Why are there any contingent, concrete things at all?" or (again) "Why are there *these* contingent, concrete things rather than none at all?" or perhaps "Why are there these contingent, concrete things rather than *other* such things?" Once we substitute true sortals ('pens', 'plums', 'penguins', etc.) so that those latter questions have more sense than the question "Exactly how many contingent, concrete things are you holding in your hand?" they seem to admit of naturalistic answers. If, moreover, the explanatory challenge to naturalism should consist of a long disjunctive question—"Why are there pens, or plums, or penguins, or...?"—then of course naturalism can offer a long disjunctive answer.

Someone who finds David Lewis's modal realism plausible might try to revive the question "Why does the Universe exist?" as a challenge to naturalism by recasting the question as "Why does the actual world exist?" where the actual world is as Lewis describes it: a concrete object including, or consisting of, everything spatiotemporally related to whoever asks the latter question. In this case no counting problems arise, since there's always exactly one actual world. According to Lewis, however, the question poses no deep problem: of necessity, *all* possible worlds exist, and 'actual' is only an indexical term referring to the single world inhabited by the speaker. On Lewis's view, "Why is our world actual?" makes no more sense, or at any rate is no harder to answer, than "Why is here here?" In responding this way, I don't mean to endorse Lewis's controversial ontology of possible worlds, only to show that someone who does accept that ontology has an easy way of dissolving the question "Why does the actual world exist?"

A different attempt to revive the question might be to ask "Why isn't the actual world a world *without* concrete things?" where the questioner rejects Lewis's indexical analysis and uses 'actual' to designate our world rigidly. In one sense, this question also answers itself, or at least it doesn't require the kind of explanation we'd require for a contingent fact, because if 'actual' *rigidly* designates our world, then it's metaphysically necessary that the actual world contains exactly the concrete things our world contains. World-indexed truths are metaphysically necessary truths. But suppose we waive this objection and agree that the question deserves a less trivial answer. In that case, we can reply along the lines of character B in my dialogue: there are (for instance) penguins, which are concrete things, and hence the actual world contains at least some concrete things. Someone more patient (or less confused) than character A might then ask, "But why are there *penguins*?" and then we'd be off on a chain of naturalistic explanations. Notice that it would add nothing for the questioner to point out that there didn't *have* to be penguins; no one is claiming that there had to be.

Lastly, consider the attempt to revive the question in a form acceptable to sortalists by recasting it in sortally quantified terms: "Why is it that, for at least one sort or kind S, there are things of kind S?"¹¹ Since the challenge to naturalism we're discussing concerns only contingent and concrete things, this question becomes more properly "Why is it that, for at least one sort or kind S whose instances are contingent and concrete, there are things of kind S?" But even this version of the question fares no better than the others. Hold a pen in your hand and consider the analogous question about counting: "For at least one sort or kind S whose instances are contingent and concrete, exactly how many things of kind S are you holding in your hand?" You can't in principle answer the question until someone specifies which kind S you should consider. The unqualified request to count makes no sense, and by the same token neither does the demand to explain the existence of contingent and concrete instances of some unnamed sort or kind. Sortalists must of course concede that we can sensibly quantify over sorts-no sortalist would want to deny the assertion "There are sorts"-but that concession doesn't imply that every question quantifying over sorts is well-posed. While we can indeed express the "fundamental question" in terms that quantify over sortals, we don't thereby produce a question that sortalists must regard as substantive. We simply recast the original pseudo-question in sortalist vocabulary.¹²

Admittedly I've spent a lot of time on the topic of exact counting, but only because it's illustrative: only because it clearly illustrates the senselessness that arises when we try to use dummy sortals as if they were genuine sortals. It's not that I regard counting as especially relevant to answering, or even dissolving, the "fundamental question." Nor do I hold the clearly false view that only concepts captured by count nouns can be genuine sortals; so can concepts captured by mass nouns, a topic I'll return to shortly. My point has been that the content of a question changes significantly depending on which (if any) sortals it uses, regardless of whether the question asks "Exactly how many … exist?" or instead "Why do any … exist?" Recall why no one can answer the literally meant question "Exactly how many things are you holding in your hand?": the word 'things' has no determinate reference at all.

The counting problem we've examined arises not because the things we're asked to count are too numerous, or too small, or too fuzzy in their boundaries. Instead, the problem arises because it's indeterminate just *what* things we're supposed to count in the first place. The same problem arises, therefore, when we're asked to explain *why* there are any of those things at all: any of *which* things? What's the content of the question being asked? It has no content until we replace referentially indeterminate words with genuine sortals. The question "Why are there penguins?"

¹¹ I owe this objection to an anonymous reviewer for *Erkenntnis*.

¹² In a similar vein, Thomasson (2009, pp. 462–466) criticizes the attempt to recast natural-language pseudo-questions in terms that ostensibly avoid dummy sortals by using logical quantifiers and identity instead: "Why are there any things?" for example, becomes "Why is it the case that $\exists x(x = x)$?" Thomasson gives various reasons for thinking that the attempt fails, among them that all definitions of the quantifiers sooner or later refer to 'things', 'objects', 'individuals', or some such, and hence these reformulations of "general existence questions" smuggle in the dummy sortals that deprived the original questions of determinate sense in the first place.

has enough content to invite an answer, one that I've suggested naturalism can in principle supply, whereas "Why are there (concrete, contingent) things?"—again, taken literally—has too little content to invite an answer from any quarter.

4 Dummy Sortals and Cosmological Arguments

Even an expert on cosmological arguments for God's existence can fail to see that the presence of dummy sortals sometimes makes such arguments look better than they are. In a recent article William L. Rowe, who has studied the cosmological argument for decades, raises serious objections to two versions of the Principle of Sufficient Reason before offering the following principle as one that both survives those objections and also supports a supernaturalistic conclusion:

For every kind of being such that beings of that kind can be caused to exist or can cause the existence of other beings, there must be a sufficient reason for the existence of each being of that kind and for the general fact that there exist beings of that kind. [Rowe 2005, p. 111]

Notice, however, that Rowe's disjunctive term "being that can be caused to exist or can cause the existence of other beings" is a dummy sortal, again because it lacks criteria of identity for the instances it's supposed to govern. Or it's just a covering term that doesn't pick out a kind of thing requiring separate explanation. When you're holding the pen, there's no answer to exactly how many such beings you're holding, mainly because there's no answer to exactly how many beings you're holding that satisfy the term's first disjunct. Likewise for questions about the persistence of such beings across time. As far as I can tell, any version of Rowe's principle that contained only true sortals wouldn't leave him or anyone with the impression that science couldn't provide the sufficient reason that the principle requires.

Michael Burke defends a version of the cosmological argument for supernaturalism while avoiding any direct appeal to the dummy sortals I've mentioned so far. According to Burke, even if we can explain the existence of matter at every time at which matter has existed, we won't thereby explain the following additional fact:

N It is not the case that matter *never* has existed.

In other words, he says, we won't thereby explain why matter ever existed in the first place (Burke 1984, p. 357). Burke argues that N isn't explained by the law of the *conservation* of mass, nor is N explained by conjoining that law with the claim that matter has existed arbitrarily far into the past. He evidently sides with Demea against Cleanthes: explaining matter's existence at every time at which matter has existed doesn't explain why matter exists *at all*.

As I said at the outset, I don't claim that my argument dissolves every question we might ask about the origin of the cosmos. I know too little physics to say whether N represents a contingent fact that naturalism can't in principle explain; I doubt *anyone* yet knows enough physics to say whether it does. Maybe Burke's explanatory challenge survives, but before concluding that it does we should make sure it's well-posed. Although in the sentence "Why has matter ever existed?" it may seem that 'matter' serves as an ordinary (indeed, a paradigm) mass noun, I have my doubts that 'matter' as *physics* uses the term is a genuine mass noun at all. Given the abstruse things physics says about matter—that it's equivalent to energy, that it bends light and even spacetime, that it can exist in a quark-gluon plasma at a temperature of four trillion degrees, etc.—it's not clear that physics uses 'matter' in a way that allows it to be classed in *any* ordinary-language category. But let's waive that objection and consider a different question. Is the term 'matter' in the sentence "Why has matter ever existed?" so *unrestricted* that the sentence asks a pseudo-question if construed at face value?

There's reason to think it is. Now, one might argue that we avoid the quantitative puzzles that arose before when we asked "Exactly how many things are you holding in your hand?" because the *quantity of matter* you're holding in your hand is given by its objective *mass*—'mass' sometimes being defined as 'quantity of matter'. Nevertheless, three problems remain. First, as before, we need to settle on the referent of the pronoun 'it' in the phrase 'its objective mass': does the pronoun refer to a fuzzy, common-sense object—a pen, say—or indefinitely many scattered mereological sums, and if so *which* sums? The mass of what you're holding will depend on the correct answer, if any, to this latter question. Second, according to relativity theory it's not clear that what you're holding *has* an objective mass, rather than various masses according to different inertial frames of reference no one of which is privileged. Even if we can resolve those quantitative puzzles, a third problem arises when we recall that true sortals supply conditions for the persistence of the instances that fall under them. So: Did the matter you're holding survive the last ten seconds?

According to the conservation of mass (more properly, the conservation of massenergy, since the two are equivalent), the answer is *always* "yes". Let a tenmegaton bomb go off nearby, and the mass-energy you're holding will survive, although you won't any longer be holding it. I see no significant difference between a dummy sortal such as 'thing', which supplies no persistence-conditions for the instances supposedly falling under it, and the term 'matter', which supplies persistence-conditions so relaxed that they're fulfilled *regardless* of any physically possible happening. In the case of the referent of 'matter', even if the persistencequestion always has an answer, how genuine a question can it be if the answer is the same under all possible circumstances? This result casts doubt on the question "Why has matter ever existed?" if that question is taken to be so general that naturalism can't answer it.

5 Conclusion

At this point, defenders of supernaturalism might counter that naturalistic explanations must ultimately bottom out at brute, unexplained posits. But I see no reason naturalistic explanations can't go forever deeper. One bad reason for concluding that they can't is the notion that x can't explain y unless x itself is *self*-

explanatory. I don't see that notion as at all implied by our ordinary concept of explanation, which allows that x can explain y even if something else altogether explains x. Moreover, there are grounds for thinking that naturalistic explanations not only could but *must* go forever deeper. A common attitude among scientists is that the more they discover, the more there is yet to discover—the more they know, the more they realize they don't know—a pattern there's no reason to think won't continue indefinitely. Indeed, scientific discoveries routinely raise at least as many questions as they answer. Biologists have described some 80,000 species of roundworm, for example, but suspect there might be a million species. More generally, having discovered organisms in places they din't think could support life, biologists now worry that they lack even a rough idea of the total number of species; knowing more shows us we know less than we thought we knew.

Furthermore, history teaches, just when some scientists begin to think the explanatory end is in sight, a revolution comes along to open domains of further inquiry. Maxwell gives way to Planck and Einstein, and Hilbert gives way to Gödel. Jonathan Schaffer usefully catalogues several other examples of this kind.¹³ Indeed, if any facts are merely contingent, then what could it *mean* for naturalistic explanations to "come to an end," for no further naturalistic answers to remain, even in principle? We might as well suppose there could be a conceptually smallest nonzero length. Finally, anyone who holds both that (a) every fact has a logically sufficient explanation and yet (b) some facts are contingent is committed to there being an endless regress of explanations.¹⁴

If what I've said is right, then why do people mistakenly assume that "Why is there anything?" makes sense construed at face value? Here I can only speculate. In many ordinary contexts we may implicitly understand the true sortals over which 'thing' is generalizing; consider "Exactly how many things *did* you buy today?" said to someone just home from a shopping spree. So it's perhaps unsurprising that we'd carry that implicit understanding into unrestricted metaphysical contexts where it *doesn't* hold. Thomasson (2007, pp. 112–113) offers a similar explanation: 'thing', 'object', etc., may function loosely as quasi-sortals in some contexts, but because they're only quasi-sortals it can happen even in those contexts that no determinate answer exists to the question "Exactly how many things?" Consider the disputes over what counts as a 'thing' among those who've accepted author Dave Bruno's 100-Thing Challenge, the challenge to own no more than 100 personal possessions.¹⁵ Still less, then, is there a determinate answer when we remove even those implicit restrictions and ask, in full generality, "Why is there anything?" Let's stop doing that.

¹³ Schaffer (2003, pp. 503–504); compare Ladyman et al. (2007): "We have inductive grounds for denying that there is [an ontologically] fundamental level [of reality], since every time one has been posited, it has turned out not to be fundamental after all" (p. 178).

¹⁴ See Francken and Geirsson (1999).

¹⁵ See Bruno (2010). For obvious reasons, 'possessions' and probably also 'personal possessions' are dummy sortals; no wonder, then, that disputes arise over exactly how many you've got.

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