Creation ex Deus:

How to Make New Stuff out of God

Abstract

I develop a new model of the ultimate creation of things. This model is a response to a general problem with creating *new* stuff. I begin by showing why the problem of new stuff is problematic for both naturalism and classical theism. I then apply developments in mereology and modal reasoning to provide a new model of how new stuff could be created *ex Deus*. Specifically, I show how a necessary, immaterial ground of being could be that from which contingent, material things may spring forth. My larger purpose is to show how we can use the problem of new stuff as a tool for advancing our inquiry into ultimate reality.

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"In Him we live and move and have our being."

Luke 17.38

1. Introduction

How could things have come to be, ultimately? Here is a classical answer: the first things came from God, while God's existence is itself ultimate—the terminus of explanation. This answer relocates the mystery, however: how can God make things? How can *any* power of any magnitude make new things come to be? This question is an instance of a more fundamental question: how can any ultimate reality, whether Divine or not, create (ground or produce) the things we see?

I shall pursue a more precise account of the connection between an ultimate cause or ground and its effects. I will begin by articulating the problem of new stuff. This problem is about how categorically new things—whether material or mental—can ever begin to exist in the first place. I will show how this problem challenges a wide range of theistic and atheistic theories of the origin of things. I will then convert the problem of new stuff into a tool for advancing our understanding of ultimate reality.

Before I proceed, I will say something about the value of this project. Understanding the foundation of things, if there is a foundation, helps us understand the nature of the things we see. As Robert Nozick puts it, "to see how, in principle, a whole realm could fundamentally be explained greatly increases our understanding of the realm."[1] By investigating where everything came from, we inform our understanding of all things. The problem of new stuff is like a probe: it allows us to theorize about the foundation through a specific theoretical constraint.

In this analysis, I do not work from any preconceived theory of ultimate reality. Instead, I begin with a more fundamental question about how any ultimate foundation could connect to its effects. The account I develop builds on the latest work in mereology and plural logic.

2. The Problem of New Stuff

One of the oldest puzzles in philosophy is about the emergence of *new* things. How can new things come from their absence? Aristotle expresses the problem this way: "nothing can be said without qualification to come from what is not" (*Physics* 1, 8). To illustrate, consider the origin of heat. When something is hot, it gets its heat from something else, such as when water becomes hot from a hot burner. How, then, does heat originally come into existence? How can heat come from what is *not hot* at all? More generally, how does new stuff come from old stuff? How might that work?

[1] Nozick 1974, p. 8.

At the most general level, the problem of new stuff is the problem of explaining how new things can come to exist from what already exists. The principle behind this problem is that there is some *connection* between new things and existing things. We can put the principle this way:

Principle of New Stuff (PNS): new stuff comes from existing stuff in a certain way.

PNS records the idea that the connection between old things and new things is not arbitrary or inexplicable. A certain connection links the old with the new. For example, when a new car begins to exist, the car is explicable in terms of prior parts organized to form the car. The problem of new stuff arises in cases where new things do not appear to be able to come from prior things in *any* explicable way.

Over the next two sections, I will seek to clarify and motivate the problem of new stuff. In this section, I will show how new stuff poses a problem for naturalism. In particular, I will show that a wide set of arguments against naturalism presuppose a certain constraint on the production of new stuff. In the next section, I will show how new stuff poses a problem for classical theism.

Start with naturalism. Consider the following problems sometimes posed against naturalism:

1. *The hard problem of consciousness*: consciousness cannot come from, or be explained in terms, of purely non-conscious materials.[2]
2. *The problem of value*: intrinsically valuable persons cannot come from, or be explained in terms of, entirely amoral materials.[3]
3. *The problem of existence*: naturalism has insufficient resources to explain why anything exists at all.[4]
4. *The problem of reason*: naturalism has insufficient resources to account for the existence of sound reasoning (e.g., how does rationality arise from purely non-rational materials?).[5]
5. *The problems of free will and moral agency*: freedom and responsibility cannot be the products of particles governed (deterministically or probabilistically) by physical laws.[6]

While we can debate the merit of these problems, I want to draw attention to something they have in common. Each is about a *shift* in some category of reality. For example, the problem of consciousness is about shifting from non-conscious states to conscious states. The problem of value is about shifting from valueless states to states involving valuable beings. The problem of existence is about shifting from non-being to being. The problem of reason is about shifting from non-reasoning states to states of reason. The problem of agency is about shifting from non-volitional, non-free states to volitional, morally free states. All these shifts are shifts in some category. Category shifts, then, appear to be at the root of many arguments against naturalism.

[2] Chalmers 1995.See also Jahn 2001.

[3] For a recent articulation of this problem, see Bohn 2018.

[4] See Leibniz 1991 and Rowe 1998 for classic accounts of this problem. Recent developments of this problem are in Pruss and Rasmussen 2018. For a representative critique, see Oppy 2009.

[5] See discussions in Beilby 2002.

[6] E.g., Turner 2009.

If category shifts are supposed to problematic, *why* exactly? PNS sheds light. If PNS is true, then new things must come from old things in a certain way. So if category shifts happen, then new categories come from old ones in a certain way. But how? It may seem that new categories cannot come from old categories *in any way*. For example, how does goodness—if goodness is a basic, unanalyzable feature—come to be instantiated from purely non-good states? What "certain way" could there be?

Let us see if we can be more precise about the way new things could come from old things. What is the *certain* way?

Here is an idea that goes back to Aristotle. New things come from existing things by virtue of things *changing their form*. For example, when a new car comes to exist, the car comes from a bunch of things that take the form of a car. This principle is a more specific version of PNS. It specifies the nature of the way new things come from existing things. We can state the principle as follows:

> PNS+: new things are new *forms* of already existing things.[7]

PNS+ bears fruit. Consider, first, that PNS+ makes sense of how *non-fundamental* things can come to exist. For example, consider again hot things. Heat is not a fundamental category (I assume). It is analyzable in terms of kinetic energy. Therefore, the shift from non-heat to heat is not categorical and not perplexing. It is instead a change in the *form* of existing things. Thus, we can see how hot things can come from cold things by a change in form.

There is more fruit: PNS+ makes sense of why *categorical* shifts would be problematic. A fundamental category is not analyzable in terms of other categories—for that is what it means to be *fundamental*. So, a fundamental category is not analyzable as a *form* of prior categories. It then follows, by PNS+, that fundamentally new categories cannot begin to have members. In other words, categories shifts are impossible.

To illustrate, let us say we wanted to make a *ghost*—a real, immaterial ghost. How would we do it? It may seem our project is doomed to fail. Presumably, we couldn't make an immaterial ghost out of purely material things. For presumably, immateriality is not explicable in terms of material things. If that is right, then unless some immaterial ghostly ingredients already exist, it may seem impossible for any ghost to come into existence *ever*. PNS+ explains why: according to PNS+, no ghost can begin to exist because ghosts cannot come from non-ghosts—since a ghost is not a form of non-ghosts. This result is favorable: it makes sense of the intuition that we cannot make immaterial ghosts with mere matter.

PNS+ also makes sense of the problems posed against naturalism. Consider, for example, the problem of consciousness. To draw out the problem, imagine you have some sand in your hand. Your assignment is to make this sand *sad*? How will you proceed? You could carve a sad face into the sand. But obviously that won't make the sand feel sad. How, then, could you make sand sad? The hard problem of consciousness arises from the premise that, in general, one cannot make purely non-conscious things, like grains of sand, experience first-person consciousness. How, then, can consciousness emerge?

[7] PNS+ is similar to (and may reduce to) Leon's principle of material causation (PMC). See Leon 2018.

If we take PNS+ in hand, we can provide a principled reason to think the hard problem of consciousness is indeed hard. Here is the reason. According to non-reductive theories of consciousness, conscious states, like pain and pleasure, are (i) real and (ii) fundamental. That is to say, consciousness has a nature that is not analyzable in terms of non-conscious states. Consciousness is irreducible. On this account, consciousness is not reducible to a certain *form*—e.g., some arrangement, system, or function—of non-conscious particles. Enter PNS+: the only way consciousness could come from non-consciousness is if consciousness is a form of non-conscious things. Hence, irreducible consciousness cannot come from pure non-consciousness.

Interestingly, naturalists appear to be guided by something like PNS (if not PNS+) in many of their *responses* to the problem of consciousness. The most common response is to pursue either reductive or functionalist accounts of consciousness.[8] These accounts, whether reductive or functionalist, allow us to analyze consciousness in terms of a *form* of non-conscious things. That helps. For then things become conscious by taking the right form. In this way, we can then explain how conscious things come from non-conscious things in a certain way.

Another response is to deny that there ever was a categorical shift from pure non-consciousness to consciousness. Chalmers (1995), for example, posits a form of consciousness ("proto-consciousness") at the foundation of things. Why does he do that? His answer is that consciousness cannot come from a categorically different form of thing. Here, again, it appears that something in the neighborhood of PNS+ is at work.

Of course, we could respond instead by giving up PNS+. We could suppose, for instance, that consciousness just *emerges* from non-consciousness.[9] The emergence is brute. It appears to me, however, that philosophers normally come to this position only as a last-resort, when all other theories fail.

Consider, next, the problem of value. Let us suppose there are some intrinsically valuable things—*persons*, say. Suppose, furthermore, that intrinsically valuable things are not explicable in terms of valueless things. Then value is not a mere form—e.g., arrangement or pattern—of purely valueless items. On this account, getting value from non-value is puzzling. PNS+ makes sense of that puzzle: getting value from non-value is puzzling because value is not a *form* of non-value. The result is that value cannot come from non-value. Instead, either value has always existed, or it doesn't exist at all.[10]

PNS+ also sheds light on the problem of existence. If new things can only exist by coming from already existing things (per PNS+), then an ultimate beginning of existence is impossible. After all existence is not a form of non-existence. Hence, if there is an ultimate foundation of existence, this foundation never began to exist. (This result is not strictly incompatible with naturalism,[11] but it challenges naturalistic theories on which the natural order began to exist in the Big Bang.)

On reflection, then, we can see that the problem of new stuff appears to be at work in many arguments against naturalism. In each case, a version of the argument springs from an alleged

[8] See Searle 2004.
[9] E.g., Hasker 1999.
[10] Bohn 2018.
[11] For a naturalist account of a necessary foundation, see Smith 2001.

problem with some shift in fundamental category—such as consciousness, value, reason, existence, free will, etc. The upshot is this: the arguments against naturalism seem to point to a constraint on the production of new stuff.

3. Against Creation Ex Nihilo

PNS's power to challenge a worldview does not stop with naturalism. PNS also poses a problem for naturalism's greatest rival: classical theism. The problem here is that the same principle that causes trouble for naturalism *also* causes trouble for theism.

The trouble springs from the following argument:

1. PNS: new stuff comes from existing stuff in a certain way.
2. There is no way contingent, material things can come from non-contingent or non-material things.
3. Therefore, contingent, material things cannot be new things.
4. If classical theism is true, then contingent, material things can be new things (i.e., when God creates them ex nihilo).
5. Therefore, classical theism is not true.

The key that unlocks the argument is premise (2): there is no way contingent, material things can come from non-contingent or non-material things. Why think that? PNS+ provides a reason. If PNS+ is true, then new things are new *forms* of old things. It follows that contingent, material things can only be new things if they are forms of necessary, immaterial things. How is that possible?

The problem is in seeing how, on classical theism, contingent, materials things could come from nothing. On the classical theistic account, God is a necessary, immaterial being who creates contingent, material things from scratch, literally out of nothing (without using pre-existing materials). It follows that on the classical theistic account, contingent, material things are not *forms* of pre-existing stuff. This result contradicts PNS+.

The problem here is the mirror image of the problem posed against the naturalist. The naturalist faces the problem of explaining how an immaterial *mind* can come from *matter*. The theist faces this problem in reverse: how can *matter* can come from any purely immaterial *mind*? Moreover, the naturalist faces the problem of explaining how contingent things could come from nothing (with no explanation). Meanwhile, the theist faces the problem of explaining how contingent things could arise from pure necessity. We see here that the problems posed against the naturalist are reversible. The theist faces the same problems.

So how might one solve these problems? One option is to reject PNS or PNS+. Perhaps God can simply produce new things ex nihilo. Alternatively, perhaps a fully material foundation can produce categorically new things by brute emergence.

While my purpose is not to rule out alternatives to PNS+, I want to explore the implication of keeping PNS+. Here are three reasons to value an exploration that keeps PNS+. First, PNS+ makes sense of a wide range of observations where new things form existing things. These observations provide some reason to treat PNS+ as an empirically adequate, working hypothesis—to see what else it may imply.

Second, as we saw, PNS+ seems to underlie many of the problems posed against naturalism. Without PNS+, it is unclear why, for example, anyone should be puzzled about the origin of irreducible consciousness. PNS+ explains the puzzlement: it seems that new things, like consciousness, can only come from previous things in a certain way, such as when things take on a new form. For those of us who have this intuition, it is valuable to see what else this intuition implies, especially if it also cuts against the theistic alternative.

Finally, as we shall see, PNS+ provides a tool for developing a more precise account of creation, and seeing how to develop such an account is valuable in its own right. The result will fill out recent work on a broadly panentheistic account of God (see Stenmark 2019).

In view of these reasons, I will turn next to the project of developing an account of creation. Guided by the argument against classical theism, I will address two problems. First, I will address the problem of creating contingent things. Second, I will address the problem of creating material things. My solutions to these problems are instances of a general solution to every form of the problem of new stuff.

4. How to Get Contingency out of Necessity

On the classical theistic picture, God is a necessary being who created the contingent world. But how can contingent things come from a necessary thing?

For purposes of inquiry, I will assume that the correct answer is constrained by PNS+. Thus, I will assume that contingent things can only come from necessary things by necessary things taking a certain form. On this account, contingent things *just are* a form of the necessary foundation.

Before we consider how that might work, I will sketch one motivation one might have for thinking the foundation of existence has necessary existence. One might think that if the foundation were instead contingent, then its existence would not be *relevantly different* from every other contingent thing that has an outside cause or explanation. Contingent things come in different shapes and sizes, but such differences may seem entirely irrelevant to the ability to exist without any outside cause or explanation. For example, if a shoe depends on an outside cause or explanation, then one might think so does a lamp, a planet, a particle, and any other contingent thing one can imagine. Thus, one might think all contingent things alike have some outside cause or explanation.

A necessary thing, by contrast, may seem to have a relevantly different kind of existence, since it would be unable *not* to exist. While contingent things could conceivably be *brought into being*, a necessary thing could not conceivably be brought into being, since a necessary thing would necessarily already be. Thus, it may seem that the difference between a foundation that did not

come to be and everything that did come to be coincides with a difference between necessary existence and non-necessary existence.[12]

Of course, it is highly contentious that there is any necessary foundation. My goal is not to give a knockdown argument. Rather, I seek to suggest why one could worry about the problem of getting contingent things from a necessary foundation. If you are not persuaded that that there is any necessary foundation, then you will have no problem here to worry about. My aim in this article is to see how contingent things might come from a necessary foundation, on the assumption that there is a necessary foundation.

Let us start with the general case, where something contingent comes from something necessary. Here is how that might happen. First, let us suppose that necessary things stand in certain contingent relations to each other. For example, suppose there are some necessarily existent atoms, and suppose these atoms bear contingent spatial relations to each other. The contingent relations can then form the basis for contingent things. Contingent things are contingent *arrangements* of atoms, while the atoms that compose these arrangements are necessary.

What exactly is an arrangement? Recent developments in mereology provide the conceptual tools for an account of 'arrangements' in terms of ordered compositions.[13] For example, van Inwagen (2006: 616-7) gives an account of 'sums,' and then Rasmussen (2014: 113-4) builds on that account to give an account of arrangements in terms of ordered sums:

(A_3) '*A* is an arrangement' $=_{def}$ '*A* is a composition of atomic arrangements', where:

ATOMIC: '*A* is an atomic arrangement' = 'there are some *x*s and some *y*s, such that:

(i) *A* is a composition of the *x*s together with the *y*s (that is, *A* is a composition of some *z*s, where (a) each of the *z*s is either one of the *x*s or one of the *y*s, (b) each of the *x*s is one of the *z*s, and (c) each of the *y*s is one of the *z*s).[14]

(ii) There is some relation r, such that necessarily *A* exists if and only if the *x*s stand in *r* to the *y*s.

The basic idea here is that arrangements exist in virtue of certain things being related in a certain way. Take a particular arrangement of chairs, for example. This arrangement exists in virtue of certain chairs being related to each other in a certain spatial relationship.

According to this arrangement theory, an arrangement is an organization of things. It has parts, and its parts bear certain relations to each other. The existence of the arrangement depends on the relations of its parts. That is to say, necessarily, if the parts are so related, the arrangement exists, and necessarily, if the arrangement exists, its parts are so related. The arrangement exists over and above—or in addition to—the things arranged.

[12] For further development of this argument and other versions, see Pruss and Rasmussen 2018.

[13] By recognizing ordered compositions, we may have the resources to analyze artifacts as complexes that have parts arranged a certain way—contra Merricks 2001.

[14] We can then define '*x* is a composition of the *y*s' in terms of 'overlap'. See van Inwagen 2006: 616–17.

So far, then, we have an account of what an arrangement *is*: roughly, it is any complex that consists in certain things bearing certain relations to one another. But we may wonder under what conditions arrangements form. If, for example, I have two apples in my hand, what must I do to them to cause them to form an arrangement? Do they automatically form an arrangement?

Peter van Inwagen calls the question of what a *composite* object is 'the General Composition Question', and he calls the question of what the conditions are that determine when things compose an object 'the Special Composition Question'.[15] Following this convention, we have the Special Arrangement Question: what conditions determine when things form an arrangement?

For our purposes, we want an answer that can make sense of the production of new things out of old things. Perhaps the simplest answer is one intimated by Bertrand Russell. He writes, "Given any related objects, these objects in relation form a complex object, which may be called a fact."[16] If facts are arrangements, then *any* related things form an arrangement. And if all (atomic) things are related in some way, then Russell's answer comes to this: for any (atomic) *x*s, there is an *A*, such that *A* is an arrangement of the *x*s. In other words, every plurality forms an arrangement.

A valuable consequence of the arrangement theory is that it provides us with resources to explain the origin of new things without giving up PNS+. According to PNS+, new things are new *forms* of pre-existing things. We can make precise sense of this formation in terms of arrangements. To illustrate, consider a human head—Fred's head, say. Fred's head comes from pre-existing atoms arranged *in a certain way*. Which way? This way: when atoms stand in certain spatial relations to each other, they form an arrangement, which is Fred's head. This new thing—the head—comes from old things when those old things enter a certain arrangement. In this way, arrangements are new things that come from previous things by way of those things taking on a certain form.

We have seen how, in principle, contingent things could come from necessary things without violating PNC+. In particular, we considered how necessarily existent atoms might compose contingent arrangements. Yet, what if atoms are not the ground layer of reality?

To cover our bases, let us consider an alternative account. Suppose the ultimate foundation of things lacks discrete shapes, limits, and boundaries altogether. Instead, the foundation has a supreme nature that precludes all arbitrary limits. Let us call such a foundation "God."

Is there a way to make sense of how God could produce *contingent* things without violating PNC+? Yes. Here is a way. Suppose God is a necessary substance that can instantiate contingent forms. Then to create the universe, God instantiates forms *in God's own substance*. For example, to create a geometric universe, God instantiates a geometric form to his substance. The result is a geometric universe made from God's own substance. These forms are like cookie cutters, while God's substance is like undifferentiated doe.

To be clear, God's substance remains formless *in itself*, while the universe is a combination of God's substance and the form of the universe. The arrangement theory has the fortunate consequence of providing a more precise account of the relationship between the foundational substance and its particular (or particularized) forms. We work with the following items: (i) the foundational

[15] van Inwagen 1990, p. 20.
[16] Russell 2004, p. 88.

substance, (ii) relations, and (iii) abstract forms. We can now build our theory of creation in terms of these items. For example, we can analyze the creation of a particle as consisting of the foundational substance bearing the instantiation relation to a certain form. The particle, then, is an arrangement that exists if and only if the foundational substance instantiates that particular form.

To display the power of this account, I will show how it can apply to various theories of a foundational reality. I will offer three examples, two historical and one contemporary. First, consider Aristotle's hylomorphism.[17] On this account, prime matter is the ultimate stuff from which other things, like fire and water, are made. Prime matter makes these things when certain forms are instantiated. On this view, holomorphic wholes are ordered unities (i.e., arrangements) consisting of the ultimate stuff (e.g., prime matter) taking on particular forms. For example, a musical man is particular form of man, while man is form of animal, and animal is a form of matter. The ultimate stuff, then, is formless in itself. In other words, God constitutes the universe in the way that a man constitutes a musical man.

Consider, next, Spinoza's substance monism. According to Spinoza, there is one substance, and everything else is a mode of that one substance. The one substance has necessary existence, while the modes have contingent existence. The arrangement theory provides a more precise analysis of Spinoza's account. Modes are ordered unities—i.e., arrangements—consisting of the one substance taking on particular forms.[18]

I turn, finally, to a contemporary account: *priority monism*. According to priority monism, a most basic substance overlaps all other substances.[19] This most basic substance is a whole that exists prior to its parts. The arrangement theory provides an analysis of the relationship between the whole and its parts. The parts are organized unities that exist posteriori to—i.e., in virtue of—certain forms applied to the substance as a whole. On this picture, God is the whole, while everything else exists *within* God and *by virtue* of forms applied to God's substance.

These accounts are just a beginning. In the next section, I will say more about how the things we see might be forms of God. For now, I wish to emphasize a more modest result: we can see at least one way to link necessity and contingency without giving up PNS+. This result is fruitful. We now have a framework for analyzing contingent things in terms of forms of a necessary foundation.

5. How to Get Materiality out of Immateriality

I will now fill out my account by providing a theory of how an immaterial God could form material things. My account will expose an intriguing asymmetry between materiality and immateriality. In particular, the account has the consequence that materiality can come from immateriality, but not vice versa.

I begin with a theory of the nature of an immaterial foundation (God). On this theory, God's nature contains all *ideas*. An idea is an abstract form.[20] For example, the foundation's nature includes the

[17] Physics 1.
[18] Kisner 2018.
[19] Schaffer 2018.
[20] This account may remind you Spinoza's view that God has all attributes. My account can make sense of the spirit behind Spinoza's view. God "has" the attributes (not literally) by contains them—as ideas—in God's nature.

idea of a horse. This idea is the *abstract form* (i.e., feature, property, or attribute) of a horse. The first thesis, then, is that the forms exist in the nature of the foundation.

Notice that this account of forms differs from both Aristotle's and Plato's. Contra Aristotle, at least some forms exist *prior to* their instantiation. For example, the form of a horse existed—as an idea—before there were any horses. Moreover, contra Plato, the forms do not all exist independently of a concrete substance. Rather, they exist within the nature of the ultimate substance.

Before I give the rest of the theory, I will provide some independent motivation for anchoring the forms in God's nature rather than in Plato's heaven. My motivation is to avoid a certain Russellian paradox. The paradox emerges from recent work on plural logic.[21]

Here is the problem. Suppose that for any plural, the xx, there is a form of those xx existing. Then there is this form Q: the form of the forms that are not forms of themselves. But there cannot be any such form as Q. To see why, suppose first that Q is a form of Q. Then we have a contradiction: Q cannot be a form of Q because Q, by definition, is only a form of the forms that are *not* of themselves. So suppose, instead, Q is not a form of itself. Then Q qualifies as being among the forms it is a form of—since it is a form of the forms that are not of themselves. The result is that Q is a form of itself, which contradicts the assumption that it is not. Either way, then, we have a contradiction.

How shall we escape the contradiction? The clear way out is to deny the starting assumption. We can deny that for any plural, there is a form of that plural. Then we avoid the contradiction.

But if there are plurals without forms, we run into a puzzle for the Platonist (that has its roots in Russell's paradox of propositions). What explains why some plurals have a form and not others? Is there is a form of all the sheep but not a form of all the goats? How could that be? It is completely arbitrary and ad hoc for some things to have a form but not others *without any explanation*. Yet, if all forms exist independently in Plato's heaven without explanation, then there cannot be any explanation of why some plurals have forms but not others.

We may express this problem more acutely in the form of the following argument against Platonism:[22]

(1) If Platonism is true, then for any *x*s, there is the proposition that the *x*s exist.
(2) There are some *y*s, such that the *y*s are all and only the propositions that are not about themselves.
(3) Therefore, if Platonism is true, then there is the proposition *P* that the *y*s exist. (1, 2)
(4) There cannot be any such proposition as *P*.
(5) Therefore, Platonism is not true. (3, 4)

[21] The paradox has its roots in a non-plural version of Russell's propositions paradox. See Russell 1903: 527. Developments in plural logic have generated an especially pernicious form of the paradox. See, for example, Yu 2017. See also Pruss & Rasmussen 2015.

[22] This argument builds upon the argument given in Rasmussen 2014. Cf. Grim 1988.

Here is motivation for the premises. Start with premise 1: if Platonism is true, then for any *x*s, there is the proposition that the *x*s exist. This premise records the usual Platonist tenet according to which propositions are necessarily existing abstracta. For suppose propositions are necessary entities. Then it is plausible that for *any* fact, there is a proposition that corresponds to (or *is*) that fact. If so, then it is plausible that for any fact of the form *that the xs exist*, there is a proposition of that same form.

Turn, next, to premise 2: there are some *y*s, such that the *y*s are all and only the propositions that are not about themselves. One may argue for premise 2 as follows:

> 2.1. <2 + 1 = 3> is a proposition.
> 2.2. <2 + 1 = 3> is not about itself (by the stipulated definition).
> 2.3. Therefore, there is a proposition that is not about itself. (2.1, 2.3)
> 2.4. Therefore, there are *the* propositions that are not about themselves.
> 2.5. Therefore, there are some *y*s, such that the *y*s are all and only the propositions that are not about themselves.

It is tough to see how to reject any of the premises. Perhaps one could reject 2.4 on the grounds that the term, 'the propositions', fails to refer. However, it is unclear why we should think 'the propositions' fails to refer. The term is not itself paradoxical, like the term, 'non-self-referring'. Regarding propositions, the paradox arises when we add the contentious metaphysical thesis that all the propositions that ever could exist necessarily do exist. But then it looks like this metaphysical thesis is the root of the paradox, not the term 'the propositions'.

One premise remains: there cannot be any such proposition as *P*. We deduce this premise as follows. Suppose first *P* is a proposition about itself. Then *P* is one of the *y*s by the stipulated definition of "about" (specifically, that "*x* is a proposition about itself" $=_{def}$ "there are some *y*s, such that *x* is the proposition that the *y*s exist, and *x* is one of the *y*s"). It follows that *P* can only be about itself if it is one of the *y*s it says exist. If, on the other hand, *P* is one of the *y*s, then *P* is *not* about itself, since the *y*s are defined as just those propositions that are not about themselves. Hence, P is about itself if and only if it is not—a contradiction.

I do not say that this challenge for Platonism is decisive. Rather, it provides an independent motivation for the sort of theory I am developing. The theory is not ad hoc, and it has the resources to solve the recent paradox of plurals.

Chris Menzel (2018) develops a similar argument in terms of sets (where, for our purposes, we can treat a set as the form of many things existing). His solution is instructive. He appeals to an explanation in terms of God's conceptualizing activity. This solution entails that forms (at least some of them) depend on God. My solution has the same spirit: I say that certain forms exist contingently by God's conceptualizing activity (applied either to God's most basic forms or to created things). Thus, we can explain why some plurals do not automatically have a form. We solve the paradox.

The next step is to see how God might implement an idea (a form). How might God cause an idea to be instantiated? Here is my proposal. God implements an idea by deciding to cause a form to be instantiated *within God's substance*. For example, if God wishes to create a horse, then God causes

the form of a horse to be instantiated within God's substance. In short, God forms God's substance into a horse.[23]

It is time to consider a couple objections that will serve to clarify the proposal. First objection: how can God instantiate the form of a horse without God literally being a horse? God is not a horse. What, then, does it mean for God to instantiate the form of a horse?

A second problem: God cannot instantiate *incompatible* forms. Suppose God creates a horse and a sheep out of God's substance. Then a single substance instantiates the form of a horse and the form of a sheep. Yet these forms are incompatible. A single thing cannot be both a horse and a sheep. So how can a single substance instantiate both forms?

I shall now address these problems by providing a more precise account of the way God might instantiate forms. God makes *space* for the forms. Here is how this process could work. God creates space within God's own substance by instantiating a form of *distinctions*. These distinctions provide a basis for different locations within God's substance (thereby making space God's sensorium, a la Newton).[24] With locations in place, God is *then* able to instantiate material forms at different locations.

To illustrate, suppose God instantiates sheep at one place, while instantiating horse at another. Then different forms are instantiated by different portions of God's substance. The form of sheep is instantiated in one place, while the form of horse is instantiated at another place. Thus, while God cannot instantiate incompatible forms *at the same place*, perhaps God can instantiate incompatible forms at different places by making distinctions within God's own substance.

To be clear, on this account, God is not literally a horse. Rather, portions of God have the form of a horse. While God's substance in itself is formless, every other substance comes from the application of a form to some portion of God's substance, where the portions themselves come from the application of a form of distinctions to God's substance. The contradiction is gone.

Notice that on this account, God's substance exists *prior to* spatial locations. God's substance has no location *in itself*. After all, God's substance is formless in itself. Meanwhile, all formed things exist by the application of forms to God's substance. Once God applies distinctions to God's substance, God's substance overlaps all locations. In that sense, God is literally everywhere posterior to creation.

While this account provides fertile ground for many more questions, I'd like to close this section by drawing attention to one valuable fruit of the account. This account predicts that the foundation is not material *in itself*. The foundation is immaterial in itself because it has no material forms in itself. Materiality arises from the application of material forms, like extension and motion.

Moreover, we can now provide a deep account of the asymmetry between materiality and immateriality. Material things, on this account, consist of a material form applied to a substance. The foundational substance does not itself consist of any forms (because it is foundational). The

[23] For empirical evidence that mentality may be able to precede certain material effects, see Schwartz, J. M. and Begley, S. 2002.

[24] Cf. Inman 2017.

foundation is formless in itself. In this way, the foundational substance, on this account, cannot be material. It must be immaterial in itself.

This account is still only a beginning. I do not claim to have solved every problem or that one cannot raise more questions or objections. The result so far is that we can use a principle of new stuff to develop a candidate account of the origin of material forms within a formless foundation.

In summary, with the help of developments in mereology, we have seen a theory that displays how an ultimate foundation may form material things within its own substance. This account illustrates a strategy for investigating the nature of ultimate reality. We used PNS+ as a constraint, and we found a theory of creation that solves the problem of new stuff.

6. Conclusion

My quest has been to advance our understanding of the ultimate foundation of things by using the problem of new stuff as a probe. I have shown that this problem causes trouble for both naturalists and theists alike. Rather than attempt to defend classical materialist or theistic accounts, I have sought to develop a better account of creation *out of* the foundation.

I will close by listing five theoretical virtues of the account we have developed:

1. First, we have a way to explain the connection between new stuff and previous stuff. Instead of treating the existence of new stuff as brute emergence, we have a deeper explanation: new things are a form of existing things.

2. Second, the account sheds light on a host of arguments against naturalism. We now have a principled account of the root problem, for we can explain each problem in terms of PNS+.

3. Third, the account shows how to reconcile PNS+ with a broadly theistic account of the foundation.

4. Fourth, the account ties ancient ideas about the problem of new stuff with contemporary work on mereology. Specifically, my account updates and clarifies ancient ideas about form and matter in terms of the contemporary theory of arrangements.

5. Fifth, the account provides a framework for making a broadly panentheist account of creation more precise.[25] Philosophers typically describe panentheism via analogy or metaphor (e.g., the universe is like God's body). My account lays new groundwork for a more precise, analytic account of creation ex Deus.

In view of these results, I conclude that this account of creation ex Deus is significantly fruitful and provides a platform for better understanding the origin of everything.

[25] Cf. Stenmark 2019.

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