Other Grounds: Breaking Free of the Correlationist Circle

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A Real Class Act

Mathematicians make for unlikely soothsayers. Unlike philosophers, who are still occasionally heckled into submission, geometers speak to us from an airy clime, delivering pronouncements that would put an end to foolishness if only they could be understood. Perhaps this aloofness comes with the turf. Perhaps calculus and Riemann spaces are just too icy for general consumption. Whatever the reason, the decidedly non-populist status of math is strange, because we all use it constantly, and a fairly obscure branch of it at that, as we pass through our days.

The assertion is easily misunderstood. I’m not suggesting that everything we experience is mathematical. My phenomenal experience of blueness is precisely what is not mathematical about the color blue, since blueness doesn’t occur to me in terms of quantified frequencies, spectra, and the like. On the other hand, as already noted regarding pain, I never experience only blueness. I always experience blueness along with other phenomenal experiences, and it’s the relation between such experiences that, I propose, is essentially mathematical.

What I mean by this is that thinking can be characterized minimally as the activity of sorting. We group this with that. We separate one thing from some part of another. Blueness goes here, yesterday’s rainbow goes there. Behind the pageantry of hopes and fears, we’re tenaciously arranging our impressions of the world. On my view, this penchant for sorting makes each of us not only a mathematician but a specific variant called a set theorist. Not that we can rattle off the subtle rules of set theory on demand, of course. Like Monsieur Jourdain, who was surprised to learn from his tutor that he’d been speaking in prose
all his life, we happily employ set theory all the time without knowing it.

Inaugurated in the late 19th century by Georg Cantor, set theory begins with the almost diabolically simple relation of belonging. When objects are collected, the group they form is a called a set, and the objects so collected are said to belong to it. Over the course of set theory’s development, it became necessary to organize this central intuition into a number of axioms in order to avoid certain basic logical contradictions, and from these axioms great cathedrals of mathematical thought have been raised. There’s more than one way to resolve the basic contradictions, however, so there’s more than one model of set theory, with some variation in the axioms asserted. The most widely accepted model is known as Zermelo-Fraenkel set theory, or ZFC, so named for the mathematicians who elaborated it, and one reason it’s so widely accepted is that it works with every other branch of mathematics, from arithmetic all the way up to the most abstruse developments in the field. Whether you’re going through a grocery list or deriving a complex algorithm from the traffic patterns on the New Jersey Turnpike, ZFC set theory will be doing some of the work for you.

Interestingly enough, ZFC isn’t just the glue holding times tables and topology together, either. In addition to its broad underpinnings, it has made its own contributions to the repository of mathematical knowledge. At the very outset, for example, Cantor gave rise to no little astonishment when he proved that there are more real numbers (say, the points on a line) than there are natural numbers (1, 2, 3, …), even though both of these sets are infinite. The existence of transfinite sets—sets larger than “simple” infinity—has radically changed the course of mathematics and led to sobering conclusions about tradeoffs between completeness and consistency in any system of thought. It has also led to a ban of the very idea of totality. Once you have larger

infinities, you can have larger infinities than that, and so on without surcease. If nothing else, this creates problems for Descartes’ ontological argument that what conserves you is all-knowing.²

The field is still not entirely settled, however. While some of ZFC’s axioms are uncontroversial, others continue to stir uneasily at the edges of mathematical pursuit. And it turns out that the troublesome axioms are the very same that ones that will merit our closest attention as we try to resolve the problem of colocation.

Up until now, I’ve been pitting my argument against analytic philosophers, largely because they’ve been the most vigorous contestants in the debate over coincident entities. In turning to set theory, it’s mostly the Europeans — Alain Badiou, and more recently Quentin Meillassoux — who have applied set theory to the question of being outside thought, and it’s partly from them that I’ll be taking my cue. But there are also a great many actual set theorists producing interesting results, who have not an ounce of curiosity in French philosophy, even though they speak the same formal language. In particular, I’m alert to the findings of Joel David Hamkins, who argues for a mathematical multiverse³ in which no single model of set theory prevails. If you believe in a multiverse, you don’t seek truths that necessarily hold in every possible world, so much as investigate the processes that connect and separate worlds. You don’t just take ZFC at face value. You tinker with it and see what happens if you remove this or that axiom.


The multiverse view is very much in keeping, not only with the ooo stance on the equality of objects, but also with the conundrum of coincident entities, because each model of set theory is defined as a specific set of axioms, and some of these axioms have been revealed to be independent of the others. Independence in this context means that a given axiom can't be generated from the other axioms of the model, or, to put it another way, that the model is consistent within itself, whether the axiom in question is included in the model or not.

The suggestion, which I now intend to develop into a sound argument, is this: Insofar as thought can be expressed as the mathematical operation or exercise of a specific set of axioms, we can suppose our virtual improper beings to be distinct mathematical operators with different models of set theory at their disposal, which is to say operators with some axioms in common and other axioms exercised exclusive of each other. Going on this hypothesis, I will construct different models for our two thinkers, both of which are intelligible even when the correlationist view is well defended. Obviously, these models will not be the only models one can construct. But if I build them well and present a reasonable case that they reflect our intuition of what our two thinkers could be, it will set the stage for a further possibility — that we can overcome the correlationist view, not by actively seeking the other thinker’s thoughts, but by rendering them independent from our assumptions about them. To the extent that these other thoughts have consequences by virtue of their independence, this procedure will then put us in a position to exist on an equal footing with another entity, who walks when we walk and squints at the sun when we do — who lives, quite literally, in our midst.

Who Goes There?

Since my argument for colocationism proceeds from evidence about bodily responses, my first task will be to tease out some feature of motor activity that gives us a hint of axiomatic difference. To raise the stakes a little (or lower them, you decide),
let’s set aside scenarios that might involve clinical shock in favor of a more mundane example—a some case at least several steps removed from any personal experience of pain. Say I notice that my cat has jumped onto my desk, close to a cup that sits beside an important stack of papers. Knowing that the cup is full of coffee, but not thinking very clearly about my cat’s cognitive skills, I shout, “watch out,” move across the room and pick up the cup. The cat jumps away, and life continues...

The broad outlines of the issue have already been posed: For all the apparent simplicity of this scene, some undetermined surplus of the action remains withdrawn from me. I can say I picked up the cup. I might be able to articulate several smaller units of my act—that I turned, moved toward the cup, and put my left hand on the handle, if that indeed was the case. If someone filmed me, the footage might give greater detail again. No one, however, myself included, can describe every decision involved in the action. I’m compelled to offer clunky accounts. “I turned my shoulders as I looked at the cat, and shifted my weight to my right foot.” This exposition might be accurate, but it leaves out a lot, even for the brief segment of the act it’s supposed to cover. So even if there only seems to be one of me engaged in an action, there’s an explanatory limit to my willing of it, beyond or beneath which the execution actually takes place. What lies beyond this limit? To answer this speculative question, I’ll be bringing set theory into play as promised. But first, a brief foray into the empirical research on locomotion will help set the stage.

Nikolai Bernstein was a self-taught scientist of the Soviet era who, despite his isolation (or maybe because of it), had a major impact on the field of motor learning. Among Bernstein’s contributions was to articulate what is known as the degrees of freedom problem. Humans and animals, he observed, have available among their body parts more combinations of choices

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than are needed for any task—in fact, an infinite number of combinations from which to choose.

In raising the prospect of the infinite, the degrees of freedom problem calls up familiar paradoxes about runners and the impossibility of completing a supertask (which dividing by halves to reach a goal surely is), but the situation here is even more complicated than that. Not only does the runner have the course to traverse, she also has decisions to make about which arm to lift first, how high to raise the knees and so on, each of which contains innumerable variations of its own. More than a supertask, motor activity is super-multitask. What Bernstein did when faced with the prospect of a super-multitask was to turn Zeno’s famous argument around and produce a different question. Given that we do reach goals, he asked, why do we have such an overabundance of means for doing so, and how does the body navigate this forest of options?

Bernstein’s work led to an explosion in motor studies, especially after the demise of Stalin, who distrusted the ideological implications of his findings. For our purposes, several points emerge. First, the study of the problem itself is undertaken from a perspective outside the actual experience. It doesn’t seek to retrieve any awareness of the many infinitesimal motions, or any report of why some motions are made at the expense of others. It may be said that this perspective still gets us no closer to identifying micro-motor activity as thought. Maybe it’s not strictly necessary to choose one motion over another. Maybe the body simply feeds back perception about the target until it’s reached. However, this objection only says that I didn’t make the choices, not that the choices were never made. The argument here is similar to the case for other minds, in which the tiger chooses to attack or not. In fact, it’s a refined version of the same argument, since there are variations where I might choose not to pick up the cup after all—for example, if that cat jumps off the desk before I get there. But in any event, Bernstein’s exterior perspective is helpful, if only as a reminder that I do not have access to the organizing force behind the activity, even though it’s in my own body.
Moreover, we can see that these motions are organized, even when marshaled to tasks without any clear instinctive motivation. Bernstein and many others since have shown that motor activity exhibits efficiency by targeting the parts of an action. These parts, called synergies, are no more consciously executed for being more manageable. They fall rather into the category of habit. You shift your weight forward before stepping, or learn to place your thumb over your curled fingers “just so” in order to hold a hammer. Over time, you become more adept at running or driving nails.

So much might seem trivial to assert, but to say that synergies emerge from an infinite array of choices actually helps us to clarify our notion of coincident entities because it lends itself to a set-theoretic perspective. The implication, in short, is that whatever holds brain and body together amounts to a mathematical operator (and therefore to a thinker) because it assumes the validity of a set-theoretic axiom called the axiom of choice. Moreover, this mathematical operator makes this assumption on its own grounds. I emphasize the point because the axiom of choice stands at the threshold of “our” side of conscious accountability.

Roughly speaking, the axiom of choice addresses the problem of selecting something before you know what it is. Although mathematicians initially overlooked this problem, it became necessary to reckon with it when dealing with the vast entities that Cantor brought into view. For a finite set, a rule for choosing is easy to establish, because the set has already been inspected in advance and deemed countable. The natural numbers aren’t too scary, either, because I know I can reiterate the same successor operation to the limits only of my own fatigue. But what about that seemingly solid thicket of real numbers between 0 and 1? I can’t even make a rule for counting these elements, because each two elements will have another element

5 For just one among many of the recent discussions in the field, see Lena Ting and J. Lucas McKay, “Neuromechanics of Muscle Synergies for Posture and Movement,” Current Opinion in Neurobiology 17.6 (2007): 622–28.
between them, such that I can never apply a choice function to all of the elements. If I suppose I can select the smallest element first, I will be defeated as soon as I realize that there is no smallest number between 0 and 1. So I need a fiat: “If I want to choose any number between 0 and 1, it will be there.”

This fiat is the axiom of choice. In one of its simpler forms, it says: “The product of non-empty sets is non-empty.” Another formulation emphasizes selection: “Assuming a set of bins each of which contains at least one element, it is possible to select exactly one element from any bin.” But however it’s formulated, the axiom of choice also allows us to say: “An infinite set contains a countable subset.” This assertion is especially interesting, because it looks a great deal like the claim that synergies of motor activity—parts of an action—emerge from an infinite number of options.

While we’re mulling over this parallel, it should also excite our curiosity that the axiom of choice has been proven to be independent of the other axioms of ZFC (which is why the C, for “choice,” is dropped sometimes, leaving us with plain old ZF). Its independent status means that the axiom of choice cannot be accepted on the basis of set theory itself, but must be accepted according to some other grounds. We have to leave the crystalline aerie of mathematical models to find justification for stealing parts from infinity. As sufficient reason to do so, mathematicians generally cite convenience, because a great deal of their work simply can’t be done any other way.

The instinctive mind, on the other hand, seems to take the axiom of choice for granted. As the cat jumps onto the desk, my body is already moving through a branching of options that defy analysis in their infinitude. Whether I prevent the cup from being knocked over or fail to do so is beside the point. The intuition is of an operator that does not experience doubt. The virtual being that organizes these myriad choices seems to behave as if a next choice will always be available, no matter which pathway is taken or how many subdivisions of movement it finds. It doesn’t act as if there are any gaps in existence. It acts in
innocence as if the world exists— that something will be there ahead of any existing information.

Here is where I believe set theory can again help to increase our knowledge. Because we know that an operator is deriving countable subsets from infinity here, we know that the axiom of choice is involved. As it happens, we also know that another equivalent statement for the axiom of choice is: “the set of real numbers with the empty set removed has a choice function.”

The empty set is simply a set with nothing in it, a group without content that offers nothing to sort. If you think about the real numbers as being entirely “full” and never lacking content—that is, not being empty anywhere—then it seems clear enough that any choice function placed on them will yield some kind of content.

On the strength of the foregoing, we can venture a hypothesis: Where an operator A has a given choice function on motor activity, and where motor activity takes place within the domain of real numbers, operator A does not require the empty set. To make the formulation stronger, we could say: If A always has a given choice function on motor activity, and motor activity always takes place within the domain of real numbers, then A does not encounter the empty set. This hypothesis is supported in turn by the generally accepted observation that muscle activity is never entirely at rest, but retains some electrical potential, even at its least energetic. The motor mind knows only motion, and, what amounts to the same thing, knows only positive being.

In isolating our elusive mathematical operator this way, we’ve hit upon a few simple identifying features that give us some explanatory power as to how it behaves. As it encounters the environment, it meets each stimulus with a response, leaving no remainder. A set theorist would say that the set of stimuli and responses is well-ordered. This is because a least element,

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6 The assertion about real numbers follows from the established equivalence to the axiom of choice: “For any set A, the power set of A with the empty set removed has a choice function.” A power set consists of all of the subsets of a given set. Since the power set of the natural numbers is made up of the real numbers, the inference is straightforward.
by which we mean an *earliest* response, is always available, even if extension in space is continuous.

One could quibble with the quantifier “always.” It may be, for example, that operator A recognizes the empty set every now and then, and therefore needs to borrow the axiom of choice from grounds other than its own (in order to apply a choice function to the real numbers). One might argue against the continuum of space, on the grounds that extension is not necessarily made up of real numbers. I believe the case is strong enough, however, to make a first commitment to a set-theoretic model for our other thinker, namely, that the axiom of choice is always among its operations, while the axiom of the empty set (i.e., that there *is* an empty set) never comes up for review.

At this point, complaints might also arise from quarters having nothing to do with set theory. What about constraints on the body itself? One can hear the analytic crowd mustering their paraphernalia. What if you were strapped to a gurney with iron manacles on every extremity, rendering you unable to move? What if your limbs were all cut off — what would become of your parsimony of response in a case like that? Admittedly, motor activity is limited in certain circumstances. However, even in highly constrained cases, some withdrawn entity will continue to *behave* as if the options were infinitely large. We would do well in this regard to recall the phantom limb phenomenon, in which the amputee has the impression of being able to move the lost limb. My conscious mind will have the impression of something other than itself being engaged in a super-multi-task — even when the vehicle for carrying it out isn’t there!

Another challenge to the innocence of our other thinker is the specificity of its medium. Doesn’t the human anatomy favor some stimuli over others in such a way as to render a flat ontology unattainable? Most object-oriented ontologists place a good deal of importance on the differing constraints of an object. The bee sees thousands of flowers where you or I see one. The dog hears a much higher tune than you or I. To privilege our own particular constraints, the object-oriented complaint might go, is to privilege the human over other objects.
I agree with the insight behind this complaint, but it’s not clear that it affects my position. It’s certainly plausible that different objects will perceive the world differently, even if they enjoy the one-to-one relation between stimulus and response I’m describing. In such a case, we suppose that they receive different stimuli from each other and respond according to their bodily constraints (their degrees of freedom). The mathematical operator at work would only go as far into the continuum as needed in order to respond. This, in fact, is the very charge I laid against ooo in the beginning, when I held that the acceptance of caricature across beings does nothing to refute correlationism. But remember: The being I’ve been describing, though it shares my body, is still not me, and the challenge at hand is not to defeat correlationism in others. It may be that the minds you and I actually inhabit, as opposed to this one that we have just identified, stand as rare cases among the panoply of virtual beings where such a defeat is even imaginable.

The small scope of my description might also seem problematic. A well-ordered set of stimulus and response doesn’t necessarily encompass the entire human object, insofar as the human object undergoes processes that are beyond kinesthetic activity entirely. It doesn’t necessarily have any bearing on the production of insulin or the growth of hair, even if it indirectly affects those processes. In this sense, its existence can’t give a complete answer to Descartes’ question “What conserves me?” It may, however, show coincidence between entities within the limits of motor response, and in the strictest sense, motor response is precisely the domain in which practice can be undertaken.

We’ve made some headway, then, in defining the other virtual being that persists in withdrawing from my personal identity. This virtual being does not propose the existence of objects and then set out to find them. Like my cat, it cannot re-orient my words “watch out” to wonder if I’ve left a timepiece in the yard. In short, it does not — and we will suppose it cannot — attempt to look outside the sets that are presented. It responds to what is presented, whether the stimulus is internal (say, hunger) or external (whatever hunger identifies as food). Yet it also
has a dizzying number of responses at its disposal. Where this combination of the assumption of being and the subdivision of uncountably large sets appears, it will lend strength to the supposition that the axiom of choice, and therefore a thinker, is involved. Drawing from an existing tradition of cognitive science, which categorizes motor responses below the level of consciousness as organized by implicit memory, I propose to call this thinker the *implicit mind*, and the model at its disposal the *implicit model*.7

Implicit knowledge is often described as “knowing-how,” as opposed to explicit or declarative knowledge, which attests to “knowing-that” — and conveniently enough, the latter term is just as apt. (Generally, neuroscientists who use these terms are straightforward materialists and far removed from debates about coincident entities. My contention, obviously, is that these two kinds of knowledge indicate two different minds.) Like the cat in my example, my implicit mind exhibits significant degrees of freedom and yet is able to assume the axiom of choice in a way that I find problematic in my own cogitations, but by the same token it lacks certain capacities that my personal identity assumes with ease, the most obvious of them being the ability to give an account — to make declarations about my experience.

**Who’s Asking?**

How, then, might this other ability, this *declarative mind*, be explained? The question is no less daunting for finding ourselves once again at home, as it were, with explanations. In trying to characterize the implicit mind, we came up against a certain otherness that resisted personification. For the declarative mind, the opposite holds true: We run the risk of over-personifying it. It may be a fool’s errand to give an account of that which can

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7 The term “procedural” is often used to describe one kind of implicit memory, and it’s preferable in some ways to the term “implicit.” But Ian Bogost has already adopted the term “procedural rhetoric” to mean something slightly different, so I will avoid it where possible in order to prevent confusion.
give an account, unless the idea is to affirm that all such efforts are foolish. On the face of it, that’s perfectly true. On the other hand, we’re often called upon to give an account of our actions with some appeal to their basis. If someone were to ask me for my account of picking up the cup, she probably wouldn’t be asking me how I did it, but why, or at least not completely how, and at least partly why. So we are faced with a problem that’s not limited to philosophers. Moreover, we’ve gained an inkling of the scope of declarative thought by identifying the axiom of choice as independent of the other axioms in ZFC. Is there, then, some connection between this uncanny otherness of choice and the basic tools of reportability?

Taking an account to be language-based, broadly construed, I propose that we’ll find a path from letters to numbers (and back again) through the principle that the mathematician Akihiro Kanamori has called *indifference to identification.* This principle will be familiar, on one level at least, to semioticians. As Saussure pointed out at the dawn of structuralism, one can use any sound or symbol to refer to an object. The small number of onomatopoetic words in use worldwide only demonstrates the point: Signifiers can resemble what they signify, but the resemblance is by no means necessary. The mind that can formulate words is able to substitute one sound or image with another differently to the ontic particularities of the object in question.

That signifiers are arbitrary is obviously an important insight about the ability to give an account, but it’s also significant that indifference to identification can be used to apply the same function to different objects, or to seemingly different objects. The cup on my desk and the cup that my cat accidentally broke yesterday are different in one way but the same in another. Each actual cup, which is distinct from every other cup in the world, is called a *token,* while a cup “as such,” as a category, is referred

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to as a *type*, and can be used to consider many different cups indifferently.

As the mediator between types and tokens, indifference is therefore able to address a wide range of philosophical concerns. Not only does it capture a basic function of metaphor (“love is a rose”), it’s almost indispensable for logical rules of inference. When we say, “All men are mortal, Socrates is a man, therefore Socrates is mortal,” we silently employ indifference to advance that the token “Socrates” is also of the type “man.” Moreover, even “one” object can be considered a type rather than a token, since it exists in different instantiations over time. A cup that survives from morning to afternoon may be considered different in some way and still rate as the same object, at least as far as my report of it goes.

The rift between continental and analytic philosophy can be traced in large part to commitments as to which of these two applications of indifference should win the day, with one side wielding ever more transgressive adjectives and the other posting warning signs around the properties. I have no inclination to take sides in the dispute. On the contrary, when both applications are used at once, there’s a certain lockstep effect that will show itself as my case draws to a close. What I want to establish for the moment is merely that the principle enjoys these two uses in relation to language — indifference to the signifier on one hand, and indifference to the signified on the other — because this will allow us to make the move from names to numbers.

In set theory, the axiom that addresses indifferent to identification in both of its uses — whether I want to assert the equivalence of the words *Tasse* and “cup,” or I want to claim the equivalence of a new cup to the one my cat broke yesterday — is the axiom schema of replacement.10 In the vernacular, the axiom

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10 “Replacement can be seen as a crucial bulwark of indifference to identification, in set theory and in modern mathematics generally. To describe a prominent example, several definitions of the real numbers as generated from the rational numbers have been put forward [… ] yet in mathematical practice there is indifference to actual identification with any particular objectification as one proceeds to work with the real numbers. In set theory,
schema of replacement says: “If an element in a set is replaced with exactly one another element, the result will be a set.” Normally, the substitution is described as a formula or function that’s “mapped” onto a set. If A is the set of natural numbers, I can map a function $f$ onto A to create a new set, B, in which each natural number bears the function $f$. Say, for example, that I work out the equation for the graphic shape of a cup. I apply this function to my set, and voilà: I get one cup, two cups, three cups, and so on. I get the cup as a type. The natural numbers have become signifiers.

Strictly speaking, the number of functions that might be enlisted for a replacement set is limitless. If I get tired of mapping my “cup” function onto A, I can switch to any other function that captures my fancy. This will be helpful for my account, which is probably going to be made up entirely of signifiers, and in fact, it seems self-evident that an entity capable of language can employ the axiom of replacement at its leisure. Those who have availed themselves of Ian Bogost’s Latour litanizer will also appreciate the point. Using replacement, I can generate the signifier apples, or — just as easily — car parts, burnt toast, dentistry, the state of Idaho,… the list can easily be made to match any litany of objects given by an object-oriented ontologist as warranting equal status with each other.

Unfortunately, the use of replacement comes at a cost. The axiom tells you that the substitution of an element in a set will give you another set, which professional set theorists need if they want to establish sets like the unions of infinities (say, the one opts for a particular representation for an ordered pair, for natural numbers, and so forth. What Replacement does is to allow for articulations that these representations are not necessary choices and to mediate generally among possible choices. Replacement is a corrective for the other axioms, which posit specific sets and subsets, by allowing for a fluid extensionalism. The deepest subtlety here is also on the surface, that through functional correlation one can shift between tokens (instances, representatives) and types (extensions, classes), and thereby shift the ground itself for what the types are.” Kanamori, “In Praise of Replacement,”47.

11 And those who have not, are encouraged to proceed without delay to http:// www.bogost.com/blog/latour_litanizer.shtml.
union of the set of odd numbers and the set of even numbers), and which ordinary mathematicians like you and I need if we want to give labels to objects. But even though the axiom is unfettered in terms of the functions available for use, any function chosen is still a function, and because there’s no a priori choice for any next substitution, problems show up at higher levels, where one function is presumably meant to have a relation to another through some overarching function that connects them. Once I’ve generated the natural numbers, I can always use replacement in the Saussurean sense, by using another formula to derive the graphic shape of a cup, without worrying about the particular shape I chose. So far, so good. I can represent cups in my style, and you in yours. Everything changes, however, once it’s granted, as we already have, that a report will always leave something out. Between my perception of my cat and my decision to stand, both of which I can explain as types, there’s a gap that my account is unable to fill.

The supposition here, for the sake of satisfying our assumption about the correlationist impulse, is that substitution is in progress whenever thinking occurs — that thought for the mind I inhabit is never without the operation of substituting one set for another, even if it returns the answer “same set.” This gives us the neatness of the Cartesian ego, which exists whenever it’s thinking, but it also implies something very odd. What can it mean, after all, that thoughts are discrete enough to be recognizable, if they are continuously replaced with other thoughts? Something must change the input at points along the way, such that one arrives at sameness or difference over time. (Note that I’m not asserting the need for the world to be stable. I’m simply making an observation about how the declarative mind behaves.) If language is “always already there,” as the continentals say, and the act of substitution is co-extensive with declarative thinking, then each successive moment will present the opportunity to sort — either to assert some new mapping function, or to hold good with the one currently under consideration. We can see that something does this selecting. Something “digi-
tizes the analog,” otherwise we would not recognize our own thoughts — but what?

It might be put forward that this something is the implicit mind itself. Maybe I don’t need to make an explicit choice for where one object begins and another ends, because — one might argue — the implicit mind takes care of it for me. There’s a rather large cultural industry dedicated to the premise that human consciousness can be naturalized along these lines, and we certainly see as much in cases of procedural learning, at least on one level. The fingers come to know the violin better than I do, as the implicit mind isolates synergies from an infinite array. But the idea that my implicit mind can become whatever agency lies in the gap loses strength as soon as we add innovative combinations of predicates into the mix. If, for example, still following my leitmotif involving cat and cup and papers, I get the bright idea of putting my cup somewhere else besides my desk next time, the implicit mind will not be the driving agency, because “next time” is, strictly speaking, never presented, and the implicit mind as I’ve defined it can’t register what’s not there. Yet I can remember that I planned to move my papers to a different location, and I can recognize it as a good idea at a later date, even if I haven’t gotten around to doing it. From here, it’s easy to see that the same will hold for any thoughts that involve rules of inference. If the implicit mind were the only bridge between one state of awareness and the next, I would be a very different kind of creature than the one I am.

Well, then, suppose I introduce my personal identity as a single “master” predicate that justifies any function I might choose next. So much would allow me to consider “everything

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12 Such a case actually works better than one involving the direct experience of pain. In the direct case, we might suppose that the implicit mind retreats from a painful stimulus as a matter of habit, and so assigns a new home for my papers just by happening onto it. But here no pain actually arises from the papers themselves, so the adaptation cannot be considered in the same way.

13 As might be expected, replacement does the heavy lifting here. Where (a), (b) and (c) are subsets, and (c) = “on my desk,” replace (c) with (d) = “on a high shelf.”
that is predicated” with impunity, since it could be organized by the very act of me thinking it. And why not? There’s certainly a sense in which the continuity of my identity across functions is inescapable. Even writers who argue against psychological continuity try for a consistent argument, and they sign their name with some uniformity from one article to the next. On the other hand, the continuity of my identity seems impossible to attain, since I need to start with a type — myself at different occurrences — in order to make a rule for all types, including the rule for myself over time. If I attribute my identity to an additional factor (say, some intermediary that provides the ability to share instances of memory between instances of my identity), I get no further, because I still require this additional factor to persist and so to produce some overarching type — for as long as it does.

This vicious circle has posed a problem for psychological continuity ever since Locke first claimed that personal identity is defined by its sameness over time, among the earliest objectors being Joseph Butler, whose argument came to be called the circularity objection.14 Indeed, the vast majority of arguments about personal identity look to solve the grounding problem that this circularity provokes, rather than bothering themselves, as I am, with the situation of too many thinkers at the same time. The circularity objection remains important for the colocationist argument, however, because it gives us an entry point for clarifying the challenges faced by one of my coincident thinkers.

And challenges there are. If, as the correlationist argument dictates, predication is constitutive of the declarative mind, I have problems beyond my choices of where and when to limit objects. This is because whatever it is that projects sameness or difference into the gaps in my report must do so on the strength of some mapping function, even though one of the things that

has to be projected into the gap is... an operator actually capable of employing a function. After all, I can clearly recognize instances where my thinking, conscious mind stops and then resumes again, and not only in obvious cases, such as when I sleep, but also when I stand or fiddle with a pencil—or put my papers where I’ve never put them before. The clunkiness of my account dogs me wherever I go, and reinforces the weird feeling that I’m myself only in fits and starts. So if I’m committed to believing that I’m the same person before and after these discontinuities, even if only in some partial way, then I must believe in some substrate that binds together not just memories or recognition of objects, but instances of my own perspective—of what it is like to be me.

There must be an operator that ferries me through the fog to meet myself on the other shore, because I do arrive on the far bank somehow. Yet nothing in my own repertoire can reproduce what it is like to be me, so any such “bridge operator” is simply not available. So long as I want to be capable of the simplest species of reason, then, I have no recourse but to construct my own continuity, the complaints of Joseph Butler and company notwithstanding. The result will not be instantly satisfying. To reproduce continuity, it must be the case that I’ve somehow constructed a version of myself that is itself capable of constructing myself (so as to be the same as me), which version can in turn construct myself constructing myself... and onward into the mist. Of course, this series is impossible to complete, and therefore it can never be constructed—and aside from its dazzling aspect, a series that is both necessarily constructed and never constructed is sure to keep my troubles from ending anytime soon.

This brings us, by a route that I hope has not been too tortuous, to the axiom of foundation. Early set theorists were blissfully unaware of the need for this axiom, because they assumed the ability to assign a predicate to any set. If they wanted to assign the predicate “cup” to all cups, they just did it, and that was that. Then Bertrand Russell came along and wondered about a set that does not have itself as a member. Defining a set in this
way raises an insurmountable paradox once you consider the set of all sets that do not have themselves as a member, since this set must have as its members sets that are not members of it. If I’m thinking about the cup on my desk, the thinker that I am can be easily excluded from membership in this set. The set contains a cup and a desk, end of story. But if I then escalate to “every thought I have,” I’ll surely need to include the thinker that I am, since I’ve admitted to its existence in a largest set just by asserting its exclusion from a smaller set. Run every variation on this argument you like, you end up with a contradiction—the same contradiction that’s triggered by an operator contained within its own operations.

The main takeaway from Russell’s paradox is that there can be no set of all sets, and that when you claim to have found one, you’re actually looking at something called a class, which is simply a group of elements that unambiguously share an attribute. For the most part, set theorists don’t like to deal in classes, for a reason that many ordinary people will also find compelling—as soon as you ask what’s in them, you find yourself down the rabbit hole, where things are not what they are, and are what they aren’t. But the correlationist, who believes that thought encompasses all being, cannot be done with classes so easily.

ZFC’s solution to self-belonging, and to the problem of classes generally, is the aforementioned axiom of foundation, which, simply put, requires every set to have an element that remains disjoint. An element must exist with a relation to a set without belonging to it. Usually, this so-called foundational element is taken to be smaller than the smallest element in the set, the tra-

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15 Tim Morton rejects concerns about Russell’s paradox outright, and in fact vigorously embraces the idea of things being what they aren’t. As already stated, my strategy, like that of Meillassoux, is to find a solution from inside the correlationist circle, which on my view is intimately bound up with self-belonging. It’s in this spirit that I accept both the paradox and the law of non-contradiction. If I can win the hard case, so much the better.

16 Technically the axiom of separation solved the problem of self-belonging first, and foundation was added as a means of further defining the solution—not so much to explain that sets can be separated as to explain how they can be separated.
ditional example being the empty set, which contains no thing and is always waiting “down below” the non-empty, no matter how far down the chain of being you go. A non-empty set will, of course, not be in the empty set (or it would not be empty), while the empty set can be added to any non-empty set without incident. The same could be said for three and any set of whole numbers greater than three: I can find three cups in any set of cups of four or greater, but finding four cups in a set of three will be hard work.

We might wonder, then, if the empty set can break the chains of self-belonging where my personal identity only seems to wind them in ever more binding coils. We've already had an inkling of this possibility in the ability to consider objects that aren't present. My papers aren't currently up on a shelf safe from damage, but I can imagine it as being the case. The empty set, which is what we get from the set containing both my papers and the shelf, seems to be crucial for any kind of thinking beyond rote habit. Indeed, my use of it not only allows me to consider changing my habits (putting my papers on the shelf and leaving my coffee on the desk), but to think, say, “all of the jaguars in this room” — of which there are currently none — and many other things that don’t exist besides, including objects that are yet to be. I can think of this book as complete, for example, even though the complete book does not exist as I type these words. I’m able to make plans, even the best laid ones, thanks to the empty set.

Encouragement fades, however, when I try to use the empty set as the foundation of my thoughts. If I suppose that the empty set founds what I think by being unthinkable, then I won’t be able to see that “all the jaguars in my room” is a fiction, because I won’t be able to recognize the set so described as empty. Any substitution will be just as real as any other. To make this work, I would have to eliminate language or accept complete delusion. If, on the other hand, I suppose that the empty set is thinkable, it will belong inside the set of things that I can think and will therefore not be foundational. To round out the possibilities, I might suppose that I never think anything but the empty set and
that every other thought is composed of it. One imagines here compositions built from nothing, as when set theorists generate the natural numbers from the empty set. In this case, though, I’ll be sorely pressed to show that there are different things in the universe by virtue of the empty set alone (even if they’re only thoughts of different things), because the empty set is not different from itself. So long as I am able to think difference, my identity must be active even in the face of so-called emptiness.

Another option, and not necessarily the final one, is the prospect of “outsourcing” my bridge operator. Maybe another entity altogether, completely exterior to my colocated organism, can provide a foundation that doesn’t trace to either of the minds in my body. The idea is a potent one, in that it ranges from the basis for a Theory of Mind (the idea that other people have minds at all) to philosophies of Otherness in general. We might hope here for a proof of being outside thought. If the world was there when I went to bed and still stares back at me when I wake up, doesn’t it mean that the world necessarily exists beyond me? It does, of course. The world, or any part of it I may recognize as persisting, can only count as a truly exterior bridge operator, however, if I lose my identity altogether. For me to think of myself as continuous, it still must be the case that I somehow insert an image of myself across the gap, which then revives the recursive appearance of yours truly and the ensuing problem of self-belonging.

Unless—a final hope exerts itself—what if I predicate each and every conscious moment of myself as belonging to this exterior bridge operator? I expand its powers beyond the gap and into the clear and distinct activities of my days. The vicissitudes of being an ordinary mathematician drive me to identify with some entity larger than myself. I’m not just me, I might say. I’m the son of my parents, a writer, the citizen of a nation, etc. But then, there it is again: Because I construct at least the part of this larger entity that warranties my own recognition of my identity on either side, my choice of it is subject to the same circularity that haunted my personal identity to begin with!
If I wanted to make the correlationist circle tough to breach, set theory has certainly helped me out. The mind I inhabit thinks in types (“this is a cup and so is that”), yet it has to be defined as a type in order to maintain the consistency of other types (“I’m the same person as the person who started this sentence”). The operation persists at the brink of nothingness and continues up to the largest encompassing entity I can imagine. More to the point, I’m faced with a tradeoff: Insofar as replacement obtains reflexively, foundation fails. Of course, we would expect no less from the correlationist premise: If everything is predicated, nothing can be disjoint from predication. But we now have some additional information. Where nothing is disjoint from predication, I will either have constructed an “I” that cannot be constructed, which looks suspect, or I will have introduced a halting point to the infinite regress of “me’s” by constructing a bridge operator that constructs me in turn.17

The declarative mind is thus as precarious as it is prodigious. It can plot the landing of a machine on Mars or conjure all the jaguars in a room, but whatever its astonishing feats, it’s caught in an anti-foundational maze, which entails not only the expected foreclosure from the “great outdoors” (to use Meillassoux’s winning phrase) but also a certain anxious resistance, not to physical death, but to the loss of logical consistency. Although in the last instance an account is supposed to be coherent, it’s actually built from a contradiction that’s forever ready to unravel into random bits of representation: the entropic event of the personal identity. And it’s precisely this outcome, as distinct from our physical absence from the universe, which we actually cannot think, because the negentropic drive of the declarative mind is, plain and simple, to preserve the soundness of the account.

17 It could also be said that I partly construct a bridge operator that constructs me in turn. The distinction revives the main issue of correlationist debate — whether an object (in this case, an entity I’m calling a bridge operator) exists independently of my thought. While I’m holding to the stricter formulation here, I will be pushing the point of partial construction in chapter four.
The model that arises from this drive, the *explicit model*, has at least some identifying features that distinguish it from the implicit mind. Unlike its coincident counterpart, it relates one set to another through the constitutive activity of replacement, even to the point of predicating nothingness. Yet it can't employ the axiom of choice on its own grounds, because it doesn't *have* its own grounds. It is, in short, just the kind of customer that drives the object-oriented ontologist crazy: a thinker that privileges thought over being, to the point of resisting the possibility of any existence outside its own predications, even at the cost of that ontological dangler I promised: Some entity, somewhere along the line, can't be what it is and can only be what it's not.\(^\text{18}\)

That concludes my account of coincident entities as mathematical operators. The distinction I'm making between implicit and declarative minds makes intuitive sense, and, I believe, delivers a reasonable reply to several of the objections to coincidence in a fell swoop. We can see why two thinkers in a single body might think in ways that are inaccessible to each other and still have access to a common source of perceptual information. It's not absurd for me to be unaware of what another thinker in my body is thinking, because the driving axioms at its disposal lead to a fundamentally different kind of thinking. At the same time, I can understand something about what this difference is, because my other thinker is operating in a formal language I can recognize. The implicit and explicit models also allow for both thinkers to “occupy” the same place, because they are mathematical operators, which give us no compelling reason to worry about their collision in space. Nor is the price for the thesis too high to pay, since it merely affirms experiences we can recognize as our own. Colocationism is consistent with the observation that the animal “me” can persist beyond the collapse of my identity, that we can both feel the same pain, that I can have an

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18 By no means do I claim this maddening non-identity as an original finding. Sartre, for one, said it early and said it well. As with many other points in this essay, my method is to follow the consequences of the argument first, and let the chips fall where they may.
intuition of unhesitating being, that I can feel bound within my thoughts, and that the shadow of failure attends my account at all times.

Admittedly, I’ve left out several important details. For the sake of simplicity, I haven’t gone into detail about the ZFC axioms that both thinkers can be expected to share.\textsuperscript{19} Nor have I made any pretense of explaining how colocation comes to be, or came to be, or whether it is a case peculiar to humans. On the other hand, the very provisional nature of my account leaves the door open for further exploration. Someone might, for example, use these models as a springboard for a theory of thinking objects that allows for a spectrum of mathematical capabilities, comparing and contrasting — and perhaps combining — them with other models of ontic difference.\textsuperscript{20}

Then, too, many aspects of the colocation thesis will not be problematic unless you think they are. You could spend a lifetime not caring how many thinkers you possess, or what mathematicians might have to say about the universe. Certainly, anyone is entitled to think in classes rather than sets. But it will be hard to trumpet the object-oriented view as accomplished if you agree that human object is complicated in the way I have set it out. It will not be enough, for example, to say, “All objects equally exist, including humans,” because the statement smuggles inequality back in merely by being made. To be the maker of the list is to be the founder of the list, in the mathematical sense that it is included in every object on the list. Presumably some of

\textsuperscript{19} For the record, the remaining axioms are: extension, pairing, union, separation, infinity and power set.

\textsuperscript{20} An obvious point of departure is Jacob Von Uexüll’s theory of the \textit{Umwelt}, but empirical science is also continually providing live threads. For example, the finding that plants employ math in rationing their starch production in response to interruptions in a normal diurnal light cycle, and experiments showing that newborn chicks appear to associate higher numbers with their right side, just as humans do. See Heidi Ledford, “Plants Perform Molecular Maths,” \textit{Nature News}, June 24, 2013, http://www.nature.com/news/plants-perform-molecular-maths-1.13251 (accessed February 1, 2015); also, Rosa Rugani et al., “Number-Space Mapping in the Newborn Chick Resembles Humans’ Mental Number Line,” \textit{Science} 347.6221 (2015): 534–36.
these other objects have their own foundation for existing. So if I would like the term human to mean a mathematical operator who could possibly make a list, I mischaracterize these other objects according to whatever image of the operator I have.

This mischaracterization will apply to my interpretation of my other thinker as much as it does to anything else. Derek Parfit has argued that the status of our identity in the future qualifies as a special concern, and then proceeds to show how this special concern is based on incorrect reasoning. Apparently, our anxiety about the collapse of the account serves the same purpose: I have an interest in the predicate of my identity prevailing in the future as the same predicate that I assert now. But if what I’m saying is true, we humans have two special concerns—one for the declarative mind, another for the implicit mind—and it’s not at all obvious that they agree. In my effort to harmonize my actions with my personal identity, I might mischaracterize my body in such a way as to override the special concern of my other thinker. On the other hand, it may also be that the special concern of my declarative mind, which Parfit seeks to allay, might be best allayed if a means were found to enter into some kind of exchange with my other thinker, which, according to the model I have advanced, does not have a long-ranging concern for its future identity.

Of course, I’m already guilty of overwriting my other thinker in this very way. I’ve advanced that the human object has two virtual beings in one manifestation, and I’ve allotted attributes to each of these beings. Not only that, I’ve assumed that one mathematical operator bears the character of some vaguely mammalian mind—from the perspective of a mind beset by self-reference. But I still might not be wrong. It may still be that some telltale operation of the implicit mind can be loosed from the mind I inhabit, if only I could find the right way to proceed. Russell himself saw the frailty of this hope when he wrote:

The [paradox of self-belonging] is, however, purely negative in its scope. It suffices to show that many theories are wrong, but it does not show how the errors are to be rectified. We can not say: “When I speak of all propositions, I mean all except those in which ‘all propositions’ are mentioned”; for in this explanation we have mentioned the propositions in which all propositions are mentioned, which we cannot do significantly. It is impossible to avoid mentioning a thing by mentioning that we won’t mention it. One might as well, in talking to a man with a long nose, say: “When I speak of noses, I except [sic] such as are inordinately long,” which would not be a very successful effort to avoid a painful topic. Thus it is necessary, if we are not to sin against the above negative principle, to construct our logic without mentioning such things as “all propositions” or “all properties,” and without even having to say that we are excluding such things. The exclusion must result naturally and inevitably from our positive doctrines, which must make it plain that “all propositions” and “all properties” are meaningless phrases.22

The import of this passage, written shortly after Russell discovered the antinomy that bears his name, has cast a long shadow over philosophy. On the Anglo-American side, one sees the stirrings of Wittgenstein’s commission to remain silent about that which one does not know. The continentals have learned for their part to be cautious about assertions of totality, at least within the bounds of human interactions. For the object-oriented ontologist, however, silence about the wilderness of being won’t do, because it tacitly awards knowledge a totality that it hasn’t earned. To make matters worse—for me anyway!—positive claims about the wilderness of being won’t do, either, because they just go ahead and cultivate the wilderness despite their best intentions. So what’s a poor object-oriented colocationist to do?

Fortunately, the math that got me into this mess can also get me out. Rather than professing to know — or not to know — anything about beings that are not me, I propose to enlist set theory itself as a means of excluding propositions of totality, and so of delivering what could be called a flat practice. For reasons that will become clear in the following chapter, I will refer to this exercise as *grounds forcing*. In the interest of nailing the case for colocation, I’ll be training my attention on the implicit mind first. But because, no matter how many minds I have, I patently do not comprise the sum of all being, I’ll also be led to apply the same extracted principles to other objects — to develop procedures of extended *grounds forcing*.

My first step along this road will be to think big without plotting world domination. On this point, I’m very much in accord with Tim Morton, who favors the very large over the “ever more infinite infinite.”\(^{23}\) Seeing that my problem, at least at the outset, is that my mapping functions are unrestricted, I will try to identify a class that’s smaller than “anything I can think about” and then look for a strictly defined mapping function that’s *probably* not part of this class. If it’s not part of this class, it will show itself by its lack of any limiting relation: Within the class, it will fail to map anything but itself. It won’t stand for anything, or indicate any consequence inside the class under consideration. It will be a choice function without defining relations except to itself over time — a *monotype*. Yet this monotype will not for all that turn out to be the empty set, because that would once again allow for the class of everything. The idea is then to see how large a set can be formed from this class before it falls apart.

Such a project admittedly meets up with a challenge: how to choose this inconsequential predicate. If I choose it, haven’t I already betrayed the cause, right at its birth? I’ve begun to make things right by limiting myself to some area of thought that

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\(^{23}\) “[I]t might be harder to imagine four and a half billion years than abstract eternity. Actuality presents us with disturbingly large finitudes. Quantity humilates. The other appears in this world, not beyond it.” Timothy Morton, *The Ecological Thought* (Cambridge, MA and London: Harvard University Press, 2010), 40.
explicitly contains less than everything. So long as my limit holds, I can theoretically choose a monotype that, on the one hand, lies outside “less than everything” and on the other, cannot be chosen within it. So much would prevent circular reasoning for any attempt to relate the monotype within a proscribed domain of thoughts. Still, how to know where the borders of inside and outside lie?

I will try to meet this difficulty by homing in on a class, all of the members of which share some predicate \( x \) as well as some unsubstantiated predicate of \textit{necessity}, which together will show up as that bridge operator that I pair myself with so as to rate as a continuous entity. From there, I’ll look for a monotype that appears to be completely contingent according to predicate \( x \)— and add it to this class. Within such a class, the monotypical object will, obviously, have no basis for being, and it will also have no limiting relation among the other objects in the class. So my monotype will not only be monotonous, it will be the very picture of contingency. And to the degree that I can limit my contribution to the capabilities or imaginary powers of the monotype, I will also know that to think it within the class is to not think myself as its mathematical operator. Conversely, where operations do result from this exercise, I will know that another operator is bringing them about independent of my thought.

The real test of this auspicious pronouncement will involve some additional technical machinery, which, as mentioned, is coming up soon enough. For the moment it suffices to highlight the modifier “over time.” Because by definition the monotype is not necessary — it only exists or does not — it shouldn’t matter where it appears among the thoughts of necessity. I won’t have to decide where it belongs. The only way to verify such complete mobility, though, will be to introduce it into the class on an ongoing basis, breaking each part down in order to expose any hidden “need” to eliminate it. As a result, necessity will be expressed,

\footnote{Left here, this strategy would basically be what set theorists call limitation of size.}
not as eternal, as a logician would normally use the term, but as *imminence*. (Not to be confused with *immanence*; I mean immi-
nence in the conventional sense of “about to happen.”)

We begin to see now how stalking the wild implicit mind diverges from other recent projects involving set theory. Badiou,
the incumbent continental thinker on the matter, uses set theo-
ry to intercept an event that not only is named but unabashedly
belongs to itself, and to which the subject is related by fidelity.²⁵
For my part, I see set theory as a means of blocking the paradox
of self-belonging so as to decenter the human, leaving faithfulness
to plurality. What’s more, if what I propose can be made
actual, there would be no need to search for an event, because
it would be available at any time during the course of everyday
life, wherever the particular range of necessity is asserted.

I’ve also mentioned Meillassoux in connection with set the-
ory, and one might be tempted to draw parallels between my
monotype and his *kenotype*, or meaningless sign.²⁶ Because
signs are unmotivated, Meillassoux argues, he is able to employ
combinations of them without forgoing their meaninglessness.
These kenotypical expressions, because empty, can then be ex-
pected to describe reality without the intercession of thought.

While Meillassoux has obviously been instrumental in the
emergence of the speculative trend of which OOO is a part, I
intend to keep my own counsel here. I agree that his proposal
captures the Saussurean sense of indifference to identification,
in that any sign could just as well be written \{\|\} or {:::}. What
he seems not to realize, however, is that his empty *sign* serves
the same role as does the empty *set*, which says “nothing here,”
whether it’s written as \{Ø\} or {:::} I’ve already cautioned against
the hazards of asking the empty set to describe reality. By the
same token, to combine different kenotypes in order to derive
specific results about mind-independent reality (a process he
calls reiteration) is in my opinion to suppose differences that are
not meaningless, but merely hidden.

²⁵ Alain Badiou, *Being and Event*, trans. Oliver Feltham (New York: Continu-
um, 2005), 506–7.
²⁶ Meillassoux, *Iteration, Reiteration, Repetition*. 
My proposal accordingly offers something less grandiose: to consider known but limited domains of imminent necessity, into which one can introduce in each case a non-empty signal (internal or external) that resists relation, and continues to resist that relation upon dull iteration — that is, without variations on its form. This approach, as I have already suggested, is consistent with the multiverse view of set theory, because it doesn't claim a master meaningless sign for thinking everything outside myself, but rather settles for different domains for decentering my perspective, each of which can be evaluated for its independence from other domains, and for how far it maximizes its reach.

It might be urged that, in advocating dull iteration, I'm lobbying for good old-fashioned ignorance. Am I tacitly opening the gates for the revival of a transcendent being, to whom we should surrender our cherished control? The question is a good one, considering the immediacy with which the correlation of the master predicate reasserts itself. Theoretically, of course, I run no risk of playing the dogmatic proselyte if I can continue to maintain the independence of my meditation from imminent necessity. Freedom from the next imperative is, strictly speaking, the very defeat of transcendence on the ground. I will, however, be constrained from issuing the sort of edicts one commonly sees when an argument is being defended. Indeed, I will meet contradiction whenever I insist that this or that truth must be admitted, or acted upon, or conveyed to others with the fleet speed of stallions. If I'm to rest my case on a type that implies no other types, there is simply no basis on which urgency can be invoked. A monotype will not be “for” anything, and so cannot come to be on the basis of its need to be. It will exist, when it does exist, without sufficient reason.

On this point, I do draw from Meillassoux, who uses the existence of transfinite sets to argue that contingency supersedes the necessity of stability in the universe. My variation on this argument, with which I concur, is simply to apply it to thought rather than to the world out there. Set theory disables

the existence of the set of all sets and gives us as consolation a foundational element disjunct from every set. Therefore, given a class predicated as necessary, which is normally enlarged by predicating a more encompassing necessity, I contend that it's still possible for this class to be exceeded by an element that isn't necessary, which is to advance the possibility of an element that organizes this class of thoughts into a larger set according to the principle of contingency.

In this respect, my proposal lays out a welcome mat for atheist and believer alike. Think of it like this: If you believe in an omniscient deity, you'll probably believe that you yourself do not have complete knowledge. (And those who believe they are omniscient will know where I’m going with this.) My proposal remains neutral as to the deity you believe in and instead intercedes on your belief in the incompleteness of your own knowledge. If you really do believe your knowledge is incomplete, then you will have no complaint. But if it turns out that you do believe your knowledge is complete, then my approach will demonstrate that you are wrong, and that you’ve been laboring under the delusion of your own omniscience. Such a demonstration should not affect the actual existence of an all-knowing entity one way or the other, since it only exerts itself on claims of totality, which, given a conservative size of the universe, are likely to be based on a very small part of it, leaving plenty of room for contingent entities larger than you before the knowledge of everything is reached. If there is a god, my method won’t break any of his furniture.

Granted, my argument as developed so far hangs on the slender thread of asserted possibility. To be persuaded that this possibility is more than wishful thinking, the patient reader will want to see a case where necessity not only presents itself, but where it definitively fails and, just as crucially, where its quarry is taken up again outside our mastery. Since I’ve argued for the colocation of virtual beings in the human body, and more specifically as they express themselves in motor activity, it’s to motor activity that I now turn to substantiate the rumors I’ve started.