Ontology, Modality, and Mind

Themes from the Metaphysics of E. J. Lowe

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Lowe's New Ontological Argument

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1. Ontological Arguments

As every schoolchild knows, it was Immanuel Kant who coined the term *Ontologische Beweis*, which he applied to an argument that had been invented by Descartes and had later been refined in various ways by Leibniz and the members of the Wolff-Baumgarten school—the school in which Kant had for so many years slumbered dogmatically. At some point in the nineteenth century, the term began to be applied to an argument—or perhaps there were two of them—that had been devised by St Anselm over 500 years before Descartes wrote his *Meditations on First Philosophy.* Apparently the word *Beweis* was not regarded by Kant and his contemporaries, and is not regarded by present-day German speakers, as an 'achievement term'—for Kant, there could be a *Beweis* that was incorrect or a failure, the *Ontologische Beweis* of course being a case in point. Although the usual English translation of *Beweis* is 'proof', Anglophone philosophers are very strongly inclined to hear 'proof' as an achievement term. For that reason, an *Ontologische Beweis* is usually called an ontological *argument* in English. One does, of course, frequently hear the phrase '*the* ontological argument', but I don't think that there is any useful sense in which Anslem's argument (or his two arguments) and Descartes's argument and Leibniz's argument can be said to be the same argument or to be variants on or elaborations of some proto-argument.

It is pretty generally agreed amongst present-day analytical philosophers that the arguments of Anselm and Descartes and Leibniz are logically defective (in a broad or 'postwar-Oxonian' sense of 'logically': they can certainly be presented in forms that are valid according to ordinary textbook logic) and irremediably logically defective. I don't mean to imply that *all* present-day analytical philosophers regard them as logically defective, but it's a safe bet that those philosophers who don't so regard them constitute a very small minority. Owing largely to the work of Charles Hartshorne and Alvin Plantinga, however, the second half of the twentieth century witnessed the discovery of some arguments of a kind that have come to be called *modal* ontological arguments.[1] And these arguments, or so most philosophers who have studied them

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[1] This work of Hartshorne and Plantinga was to a certain extent anticipated by Leibniz, but imperfectly.

will agree, are not logically defective. Here is a typical modal ontological argument. (I choose this argument as an example because its conclusion is the same as that of the argument of E. J. Lowe's that is the topic of this chapter.) It is the argument that in my book *Metaphysics* I called by the rather unwieldy name 'the Minimal Modal Ontological Argument'.

> It is possible for there to be something that is both concrete and necessarily existent.
> Necessarily, whatever is concrete is essentially concrete

hence,

> There is something that is both concrete and necessarily existent.

(Let us say, for the moment, that something is *concrete* if it is capable of entering into causal relations, if it is something that can be either an agent or a patient. Lowe has a somewhat different account of 'concrete', which I shall discuss presently.) This argument is valid in S5 and in no weaker modal system. I would not say that 'being invalid in all modal systems weaker than S5' was a logical defect in an argument—any more than I would say that 'depending on the Axiom of Choice' was a defect in a mathematical proof. J. N. Findlay once argued that any argument that purported to prove the existence of a necessarily existent thing must be logically defective (in the broad, postwar-Oxonian sense of 'logically') since the very concept of a necessarily existent thing was logically defective. But his argument for that conclusion depended on the premise that 'necessity in propositions merely reflects our use of words, the arbitrary conventions of our language'. He calls this 'the more modern view'. On the *still* more modern view, however, this thesis is false: 'Iron is composed of atoms with 26 protons in their nuclei' and 'Between every number greater than 2 and its double there is a prime number' are generally, if not universally, accepted as counterexamples to it.

If the Minimal Modal Ontological argument contains no logical defect, however, that does not imply that it is a demonstration of the truth of its conclusion. And the present-day consensus is that neither that argument nor any other modal ontological argument is a demonstration of the truth of its conclusion. And the reason why this is generally supposed to be so is that it is generally supposed that any such argument must have as a premise the thesis that the proposition that is its conclusion is possibly true. And that premise (the consensus holds) is something that no human being could know—or at any rate a human being could know it only if that human being (somehow) knew that the conclusion of the argument of which it was a premise was true. That is, a human being could know that the crucial modal premise of a modal ontological argument was true only by *first* knowing that its conclusion was true, *actually* true, and then deducing its possible truth from its actual truth. If that consensus is right, then, obviously, none of the many indisputably logically valid modal ontological arguments can serve as a vehicle by which an enquirer can pass from *not knowing whether* its conclusion is true to *knowing that* its conclusion is true.

2. E. J. Lowe's New Modal Argument

Lowe calls his argument a 'new modal version of the ontological argument' (2012). Perhaps the most interesting and important feature of this argument is that it does not employ a 'possibility' premise. Its conclusion is, as I said, the same as the conclusion of the Minimal Modal Ontological Argument, although it is phrased a bit differently: 'A necessary concrete being exists'.[2] He defines a 'concrete' being not as I did a moment ago, but rather as a being that exists in space and time—or at least in time. (A being that exists neither in space nor in time is an 'abstract' being.)

But if Lowe's argument for the existence of a necessary concrete being does not have as a premise the proposition that it is possible for a necessary concrete being to exist, why does he call his argument a 'modal ontological argument'?

He calls the argument an *ontological* argument because it is an argument *a priori* for the existence of a being that, if not *aliquid quo maius nihil cogitari potest* or *ens summe perfectum*, at any rate has at least two of the important characteristics of a being who answered to either of those two very demanding concepts would have: concrescence and necessity. He calls it a *modal* ontological argument because it involves modal reasoning. And I am perfectly happy with these reasons for giving his argument that title. It is not, after all, as if the term 'ontological argument' had a fixed and perfectly clear sense. If we do not restrict the application of 'ontological argument' to the arguments that Kant had in mind when he coined the term *Ontologische Beweis*—that is, arguments that proceed by attempting somehow to wring existence out of the concept *ens summe perfectum* by a process analogous to the process by which some Greek first wrung 'having interior angles whose sum is equal to the sum of two right angles' out of the concept 'triangle'—then I don't see why we shouldn't apply it to Lowe's argument. If both Anselm's argument and my Minimal Modal Ontological Argument can properly be called ontological arguments, I don't see why the term can't be applied with equal propriety to Lowe's argument. And, of course, there can be no objection to calling an argument that contains modal inferences a modal argument.

Let us now turn to the argument. It's rather complicated, and I will try to make it as easy to grasp in its entirety as possible by presenting it in the form of a sort of diagram, which is shown in Figure 8.1.

There are two definitions at the top of Figure 8.1. Below them there are some sentences in a roman font, and below *them* some sentences in italics—and there are also, you will observe, five crooked arrows (if arrows can have 'branches'), each using a different style of line. The roman sentences are the argument's premises. The final italic sentence is its conclusion. The other italic sentences are 'intermediate' conclusions: if we think of '*A necessary concrete being exists*' as our 'theorem', the earlier italic sentences are 'lemmas'. And, as you will no doubt have deduced, the arrows display the

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[2] Toward the end of the paper, he presents an argument for the conclusion that if there are necessary concrete beings, some of them must be rational beings. But this argument is best viewed as a separate argument—as opposed to a part of the New Modal Ontological Argument.
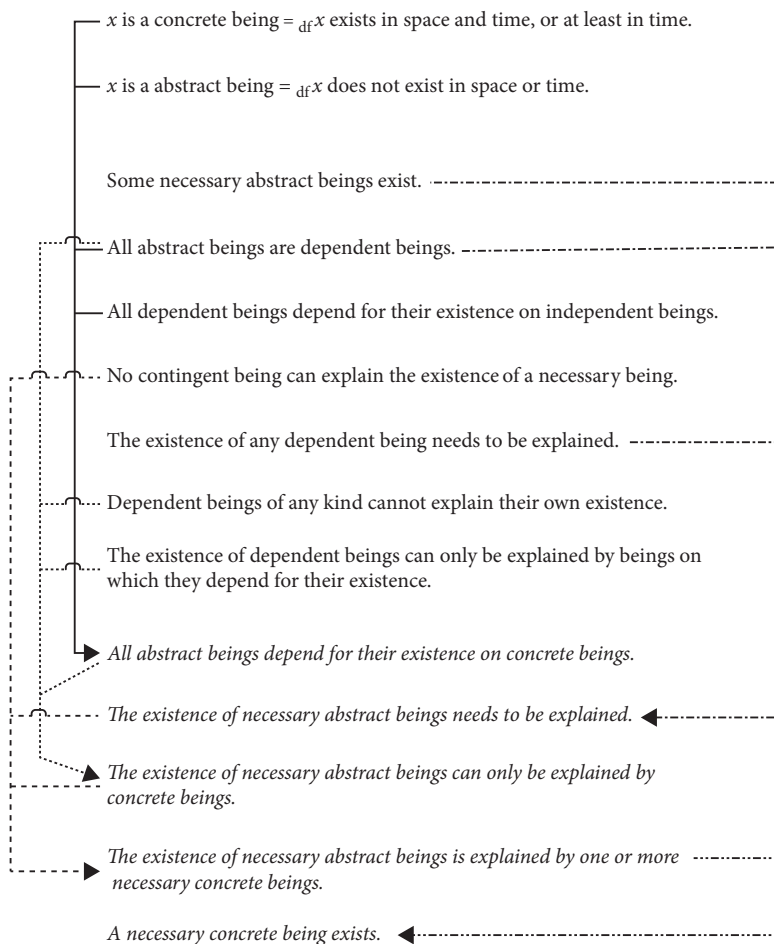
x is a concrete being $=_{df} x$ exists in space and time, or at least in time.

x is a abstract being $=_{df} x$ does not exist in space or time.

Some necessary abstract beings exist.

All abstract beings are dependent beings.

All dependent beings depend for their existence on independent beings.

No contingent being can explain the existence of a necessary being.

The existence of any dependent being needs to be explained.

Dependent beings of any kind cannot explain their own existence.

The existence of dependent beings can only be explained by beings on which they depend for their existence.

All abstract beings depend for their existence on concrete beings.

The existence of necessary abstract beings needs to be explained.

The existence of necessary abstract beings can only be explained by concrete beings.

The existence of necessary abstract beings is explained by one or more necessary concrete beings.

A necessary concrete being exists.

Figure 8.1. A diagrammatic representation of Jonathan Lowe's 'new modal ontological argument'

sentences—roman or italic—from which each of the italic sentences is supposed to follow. For example, the arrow starting on the upper right, using a dash-dot-dash-dot line, represents the assertion that the 'lemma'

The existence of necessary abstract beings needs to be explained

follows from the three premises

Some necessary abstract beings exist
All abstract beings are dependent beings
The existence of any dependent being needs to be explained.

Before examining Lowe's argument, I'll make two remarks about the definitions.

3. Lowe's Definitions

First, Lowe tells his readers that the exact content of his definitions of 'concrete' and 'abstract' is not really essential to the validity of his argument: the argument would be valid on any definition of those two terms that implied that 'concrete' and 'abstract' were exclusive and exhaustive categories. If the only thing we wanted to determine about the argument was whether it was logically valid, therefore, we could replace the two definitions with a premise:

Everything is concrete if and only if it is not abstract.

(Or, of course, with the logically equivalent 'Everything is abstract if and only if it is not concrete'.) Nevertheless, our interest is not only in the validity of the argument; we want also to discover what can be said for and against each of the premises, and doing that will very likely depend on what one means—perhaps on *exactly* what one means— by 'concrete' and 'abstract'. And that brings me to 'secondly'.

Secondly, I do not find the definitions entirely satisfactory, although my reservations about them (there are two) in the end turn out to have little relevance to the question of the persuasiveness of the argument. Still, I might as well mention them.

My first 'reservation' is this. Let us suppose that we regard some beings as, so to speak, *paradigmatically* beings that exist in space or (inclusive) time: Durham Cathedral for example. And suppose that we regard some beings as paradigmatically beings that do *not* exist either in space or in time: the sine function, for example, or the key of C-sharp major. And suppose we are mereological universalists of a really extreme stripe—like Nelson Goodman and David Lewis. What are we to say of the fusion *F* of Durham Cathedral and the sine function? The law of the excluded middle tells us that if existing in space or time is a real concept, and not simply words, words that represent a sort of vague gesture in the direction of a concept, then *F* either exists in space and/or time or it does not exist either in space or in time. Suppose it exists in space and/or time. Then it is a concrete being, and this seems problematical, to say the least. Suppose, then that *F* does not exist either in space or in time. Then it is an abstract being, and that seems equally problematical. (There is probably a parallel problem with 'dependent being' and 'independent being'. If God is an independent being and the Cathedral is a dependent being, is the fusion of God and the Cathedral a dependent being or an independent being?) It seems to me that if Lowe's argument is to have any chance of success, he must reject mereological universalism. *I* don't regard that fact as a flaw in the argument, of course, but there are metaphysicians who are wedded to mereological universalism, and in most of their cases, the marriage seems to be a pretty stable one.

I turn to another problem about the definition. Lowe considers the question whether God—if he exists at all—exists in space and time 'or at least in time'. Well, no one supposes that God exists in space (he is, as they say, without local presence). And plenty of people—Boethius, Augustine, and Aquinas, for example—have said that he is also wholly outside time, achronic. Lowe toys with this question, and in the course

of toying with it he makes, almost incidentally, a very interesting remark: that we *must* classify God as concrete because he has causal powers. But if having causal powers trumps not existing in space and time when it comes to classifying a being as concrete, why not define 'concrete' and 'abstract' in terms of having or not having causal powers rather than in terms of existing in space and time or not existing in space and time? Why not adopt the definition I mentioned in connection with the Minimal Modal Ontological Argument: Something is *concrete* if it is capable of entering into causal relations, if it is something that can be either an agent or a patient—and abstract otherwise? (Of course, if one accepts absolutely unrestricted mereological summa-tion, one will find this definition no easier to apply than Lowe's: an RAF GR-4 Tornado all-weather attack aircraft obviously has causal powers; the sine function obviously doesn't. But what about their fusion? Causal powers or not? Abstract or concrete?)

I believe that, in response to my proposed definition, Lowe would say something along these lines:

You—I imagine him addressing me—you, Peter, seem to identify having causal powers with being capable of entering into causal relations. You have, in effect, defined a concrete being as a being that can be either an agent or (inclusive) a patient, and an abstract being as a being that can be neither an agent nor a patient. I cannot accept those definitions, since it is essential to my argument that abstract beings are, one and all, dependent on other beings, and ultimately on concrete beings, for their existence. And it is at best very hard to see how a being that cannot enter into causal relations could depend on a concrete being for its existence. (The relation between a set of material things and its members is certainly a relation of ontological depend-ency and it may not be a causal relation, but if I cause such a set to cease to exist by causing one of its members to cease to exist, that looks like a causal relation between me and the set.) I should, however, be willing to accept a modified version of your definition: A concrete being is a being that can be an agent, and an abstract being is a being that cannot be an agent. According to Aristotle and his medieval followers, God is an agent who cannot be a patient. In my view, it is, so to speak, the other way round ontologically with abstract beings: they can be patients (in the sense of depending on other things for their existence), but cannot be agents.

If that is indeed what Lowe would say, I am happy to accept it. Let us understand a con-crete being as a being that has causal powers and an abstract being as a being that has no causal powers.

4. Three of Lowe's Premises

Let us now turn to the argument. I'm not going through it step by step. It's before you and you can examine its logical structure to your heart's content. (I will make one remark about it. It is not clear to me that its conclusion entails the existence of a neces-sary being that is *essentially* concrete. The conclusion of the argument, the proposition that a necessary concrete being exists, is at least formally consistent with the propos-ition that the only necessary concrete being, although it is a concrete being in the actual world, is an abstract being in some other possible worlds. If the argument does not rule

this possibility out, however, that problem would be easily solved: one only need add the following proposition to Lowe's premises: that whatever is concrete is essentially concrete. And that proposition is obviously true: nothing is a concrete being in one possible world and abstract being in another.) Rather than discuss the argument as a whole, I am going to examine the interplay between the first three of his premises, the Principle of Abstract Necessity (as I'll call it):

Some necessary abstract beings exist,

the Principle of Abstract Dependency:

All abstract beings are dependent beings,

and the Dependency-Independency Principle:

All dependent beings depend for their existence on independent beings.

(The Dependency-Independency Principle is not to be understood as stating that all dependent beings depend *immediately* on some independent being; it is rather the thesis that every dependent being depends transitively or 'at some remove' on the existence of independent beings; and it need depend on none of them *individually*: it may be that some dependent beings depend on the existence of *some independent beings or other* but not on the existence of any particular independent being. For example, it may be that the kind *horse* depends on the existence of horses, on there being at least one horse, but does not depend on the existence of any particular horse.)

Lowe explains 'existential dependency' as follows:

By a *dependent* being, in this context, I mean a being that *depends for its existence* on some other being or beings. This kind of dependence can be called *existential dependence* and may be defined (at least to a first approximation) as follows:

(D5) x depends for its existence on $y =_{df}$ necessarily, x exists only if y exists.

(D5), however, only defines the existential dependence of one *particular* entity on another. We need also to speak of the existential dependence of one *kind* of entity on another, which we may define (again to a first approximation) as follows, where Fs and Gs are entities of different kinds (for instance, *abstract* beings and *concrete* beings):

(D6) Fs depend for their existence on Gs $=_{df}$ necessarily, Fs exist only if Gs exist. (2012, 182)

I want to make two comments about this passage.

First, I do not see that Lowe's argument ever makes use of the definition (D6). What he does need is something like this:

(D6′) x depends for its existence on Fs $=_{df}$ necessarily, x exists only if Fs exist (i.e., only if some Fs or other exist).

(An instance—and perhaps a true one—of the definiendum of (D6′) would be 'the kind *horse* depends for its existence on horses'.)

Secondly, these definitions do not seem to me to be satisfactory. Consider (D5). (Similar points apply to (D6) and (D6′)). (D5) is certainly unsatisfactory if the Principle of Abstract Necessity is true—and, like Lowe, I accept that principle. For it immediately follows from (D5) and the Principle of Abstract Necessity both that there are beings and that every being, abstract or concrete, contingent or necessary, depends for its existence on any necessary abstract being. And, of course, it follows that there are beings and that all of them are dependent beings—that there are beings but no independent beings. If, for example, the sine function is a necessary abstract being, then God himself is a dependent being, since his existence strictly implies the existence of the sine function. (And this result—that there are beings but no independent beings—in conjunction with the Dependency-Independency Principle leads immediately to a contradiction.) Fortunately, however, Lowe is not committed to using these definitions—as is signalled by his parenthetical qualification 'at least to a first approximation'. In a footnote to the passage I have quoted he says,

Note, however, that the two definitions (D5) and (D6)... are not in fact formally called upon in the version of the ontological argument that I am now developing, so that in the remainder of this essay the notion of existential dependence may, for all intents and purposes, be taken as primitive. There is an advantage in this, inasmuch as finding a perfectly apt definition of existential dependence is no easy task, as I explain in ['Ontological Dependence' in *The Stanford Encyclopedia of Philosophy* (Tahko and Lowe 2015)].   (Lowe, 2012, 182 n. 4)

For my part, I am happy to allow Lowe to use the notion 'x depends for its existence on y' as an undefined or primitive notion. (And to allow 'dependent being' and 'independent being' to be defined in the obvious way in terms of this primitive.)

The three premises I have singled out, the Principle of Abstract Necessity and the Principle of Abstract Dependency, and the Dependency-Independency Principle can be used to show that it is impossible for there to be nothing (that is, impossible for there to be nothing concrete, impossible for there to be only abstract beings). Lowe has in fact presented just such an argument in an essay called 'Metaphysical Nihilism Revisited' (2013). (In that essay, he uses a slightly different technical terminology.) That proposition, of course, is entailed by but does entail the proposition that a necessary concrete being exists—or at any rate the conjunction of the latter proposition and the proposition that whatever is concrete is essentially concrete entails the proposition that it is impossible for there to be nothing concrete.

We can deduce that conclusion—that is it is impossible for there to be nothing concrete—from those three premises as follows. If the Principle of Abstract Necessity is true, there are abstract beings in every world. Therefore, a world in which there were no concrete beings would be a world in which there were abstract beings and only abstract beings, and (by the Principle of Abstract Dependency) that world would be a world in which there were dependent beings and only dependent beings—that is, a world that contains dependent beings and no independent beings. And, by the Dependency-Independency Principle, a world containing dependent beings and no independent beings is impossible.

When I first encountered this argument (on reading 'Metaphysical Nihilism Revisited'), my reaction, written up a bit, was this:

The argument is certainly valid. One might, of course, question the Dependency-Independency Principle; certainly a lot of critics of the cosmological argument have questioned it. But what really puzzles me is this: Why would any philosopher find both the Principle of Abstract Necessity (hereinafter, 'Necessity') and the Principle of Abstract Dependency (hereinafter, 'Dependency') plausible? Platonists like myself will of course find Necessity plausible, but will have no time for Dependency, especially if, like me, they believe that abstract objects cannot enter into causal relations. Aristotelians—that is, believers in immanent universals—will find Dependency plausible, but will reject Necessity. What's going on?

To find out what's going on, let us examine Lowe's arguments for Necessity and Dependence.

His argument for Necessity is essentially this. The truths of arithmetic are necessary, true in all possible worlds. Numbers and the relations among them are the truth-makers for arithmetical truths, and, therefore, numbers exist in all possible worlds. And, of course, numbers are abstract objects.

This seems to me to be a very reasonable argument, although it is enthymematic. Strict logical validity would require an additional premise, something along these lines:

For any proposition p, if p is a truth of arithmetic in the distinct possible worlds w_1 and w_2, then p has the same truth-makers in w_1 and w_2.

(If we do not appeal to this or some very similar premise, we shall not have ruled out the possibility of theses like this one:

Consider the arithmetical truth $1 \times 1 = 1$, which is, of course, true in every possible world. The number 1 is the truth-maker, or at least one of the truth-makers, of this proposition. But the phrase 'the number 1' is not a rigid designator. The office 'the number 1' is filled by different objects in different possible worlds—although, necessarily, some one object occupies that office in every possible world. And every object that occupies that office in any possible world is a contingent being.)

But that premise seems reasonable enough.

Although I find Lowe's argument for Necessity convincing, I think that it can be improved—that is, that it can be replaced by a similar but better argument. This 'similar but better argument' is *better* in that does not require any appeal to the controversial notion of a proposition's having truth-makers. (In my view, the *deservedly* controversial notion of a proposition's having truth-makers.) We can dispense with Lowe's appeal to truth-makers if we note that not all arithmetical propositions are truths about the relations among particular, specified numbers—propositions like '$7 + 5 = 12$' and '$2e > \pi$'. Arithmetic also includes universal and existential quantifications. (We all know that arithmetic is incomplete, right? If 'arithmetic' did not include quantified statements, this would not be true.) Here is one of the existentially quantified truths:

> There exists a natural number x such that none of the first billion natural numbers greater than x is a prime number.

This proposition is true in all possible worlds. Therefore, the open sentence 'x is a natural number and none of the first billion natural numbers greater than x is a prime number' is satisfied in every possible world. Now say that such open sentences (one-place open sentences such that their universal or existential closures are arithmetical propositions—propositions of *pure* arithmetic, unlike 'Some number greater than 3 is the number of the Stuart kings of England') express 'arithmetical properties'. Since our offset sentence expresses a necessarily true proposition, in every possible world at least one thing has the following arithmetical property: being an x such that x is a natural number and none of the first billion natural numbers greater than x is a prime number. Having obtained this result, we introduce a premise that does roughly the same work as the premise that I said needed to be added to Lowe's argument:

> For every (pure) arithmetical property F, the *same* objects have F in every possible world.

And, just to be on the safe side, we also appeal to this premise:

> For every property F and every object x and every world w, if x has F in w, x exists in w.

It follows that some natural number exists in every possible world. And if numbers are abstract objects, or abstract beings as Lowe calls them, it follows that some necessary abstract beings exist.

Let us now turn to Lowe's argument for Dependency, which I will quote rather than paraphrase:

Now I want to return, as promised earlier, to the question of whether all abstract beings are indeed *dependent* beings, since it is crucial to my argument that at least all *necessary* abstract beings have this status. A clue here, however, is provided by the very expression 'abstract'. An abstract being, it would seem, is one which, by its very nature, is in some sense *abstracted*—literally, 'drawn out of, or away from'—*something else*. To that extent, then, any such being may reasonably be supposed to *depend for its existence* on that *from* which it is 'abstracted'.   (2012, 189)

I am not moved by this argument. It simply does not seem to me to be true that an abstract being (abstract object or entity I'd prefer to say) is in any sense abstracted or drawn out of or away from something else. The process of abstraction may have something to do with how one *knows about* abstract beings: it may be that we know about, say, shapes like triangularity and circularity by in some sense applying a mental operation called 'abstraction' to many observed triangles and many observed circles. And perhaps some sophisticated account of abstraction could even explain how Socrates was able to say that no one was wise if he was right and there was no one who was wise (and hence no wise people for him to abstract wisdom from). Perhaps this same sophisticated account could explain how we know about 'the missing shade of blue'. Still, it is very hard to see how, if Lowe is right, shapes (or if you like, shape-*properties*

like triangularity and circularity) could exist in a world in which there was nothing that had a shape. Consider a world *w* in which there are no solid objects at all, in which there exists nothing concrete but point-particles moving about in a (Euclidean) void. Could circularity exist in *w* if circularity—in all the worlds in which it does exist—depends for its existence on that from which it is abstracted? From *what* would circularity be 'abstracted' in *w*? (By the way, the void is not one of the things that exist in *w*. The void is not a *thing*, not a fusion of really existing entities called spatial points. Speaking of the void is simply a picturesque way of saying that in *w*, there are point particles and nothing else concrete, and that two point particles are at some distance from each other; all true statements that make apparent reference to the void can be paraphrased in relational terms: as, for example, 'At *t*, particles A, B, and C were co-linear' and 'At *t,* particle A was 4.6 times farther from particle B than particle C was from particle D. If you ask why I have bothered explicitly to deny real existence to the void, the answer to your question is: To prevent anyone from saying that there must be circular things in *w*, namely circular bits of the void.)

'Well, perhaps Lowe could grant that circularity *wouldn't* exist in *w*. After all, his premise is that *some* abstract objects exist necessarily, not that they all do'.

But consider: if circularity does not exist in *w*, then neither does the proposition that something is circular. If the proposition that something is circular does not exist in *w*, then it's not possibly true in *w*, that something is circular. But the actual world is a world in which something is circular, and *w* is accessible from the actual world. Therefore, if circularity does not exist in *w*, the accessibility relation is not symmetrical. But that the accessibility relation is symmetrical is a *truth of reason*. Our actual state of affairs is essentially a *possible* state of affairs. It seems, therefore, that, while the concept of abstraction may have a role to play when we are addressing epistemological questions about abstract objects, it has no role to play when we are addressing ontological questions. And, if that is the case, then circularity must exist in all possible worlds, including worlds in which there's nothing from which it could possibly be said to be an abstraction. Lowe's argument for the dependency thesis therefore fails.

My critique of this argument is, of course, not correct beyond any possibility of dispute—for the critique itself involves arguments, arguments whose conclusions are positive and non-trivial philosophical propositions, and no argument for any such conclusion is ever correct beyond all possibility of dispute. My argument for the conditional thesis that if circularity does not exist in the world *w*, then the accessibility relation is not symmetrical, for example, depends on the premise that if the proposition that something is circular does not exist in *w*, then it is not possibly true in *w* that something is circular. And many philosophers have, in effect, disputed that proposition. And no doubt there are philosophers who are willing to say, 'All right, so Dependency entails that the accessibility relation isn't symmetrical. So what? The accessibility relation *isn't* symmetrical. You can say that the symmetry of the accessibility relation is a truth of reason till you're blue in the face, but that won't make it so.' I do not claim, therefore, to have *proved* that Lowe's argument for Dependency fails. I have only given my own reasons for thinking that it fails. And, of course, even if Lowe's argument for Dependency does fail, that doesn't mean that Dependency is false.

5. Against the Principle of Abstract Dependency

What, then, can be said against Dependency? I will try at least to cast doubt on Dependency. I will try to describe a class of abstract objects that do not depend for their existence on anything else. These objects are, so to call them, modal objects, and I must say something about the kind of modality I mean to appeal to when I am describing them.

We are no doubt all familiar with the distinction between epistemic and alethic modality, and, in particular, epistemic and alethic *possibility*. We would all agree that the two sentences

It is possible that the number of primes between 10^{40} and 10^{41} is even

It is possible that the number of primes between 10^{40} and 10^{41} is odd

both express true propositions if 'possible that' means 'true for all I know or anyone else knows' (i.e., if 'possible' is understood in its epistemic sense) and that there's also a sense of 'possible' such that we know *a priori* that if the occurrences of that word in these two sentences are understood in that other sense, one of these sentences expresses a truth and the other a falsehood. That second meaning of 'possible' is its *alethic* sense.

There is, however, more than one kind of alethic modality. We may distinguish between, on the one hand, unrestricted or intrinsic or absolute or metaphysical modality, and on the other, the various restricted modalities: physical possibility and necessity, for example, or technological possibility and necessity. There are many interesting distinctions that can be made within each of these categories. For example, in one sense of 'physically possible' it is physically possible for me to be in Tokyo ten minutes from now and another it is not. But we can ignore these nice distinctions, because the kind of modality we shall be concerned with is unrestricted (etc.) alethic modality. Unrestricted alethic modality is what is restricted in various ways to obtain the restricted forms of alethic modality. To say, for example, that it is physically impossible for there to be a Christmas pudding the size of the moon is to say that it's impossible in the unrestricted sense, impossible *full stop*, that the laws of physics should be as they in fact are *and* there be a Christmas pudding the size of the moon. Unrestricted possibility and impossibility are not, incidentally, what is often called 'logical possibility' and 'logical impossibility' because the former phrase is perfectly meaningless and the latter is of very little philosophical interest or utility.

The objects I mean to discuss are *possibilities*—that is unrestricted or intrinsic or absolute or metaphysical possibilities.

Possibilities are denoted by phrases—I consider them to be definite descriptions—that consist of 'the possibility that' followed by a sentence in the subjunctive mood. For example:

The possibility that Socrates have been wise

The possibility that Durham shall be the capital of the UK at some point in the third millennium

The possibility that 7 + 5 equal 12.

My 'subjunctive mood', incidentally, is what Orwell called the American subjunctive. If I had used instead the 'classical subjunctive', the first of my examples would have been phrased this way: 'The possibility that Socrates should have been wise'. These days, when the subjunctive mood in any form is moribund, I suppose that most people would prefer 'The possibility that Socrates was wise'—but that phrase, to my ear, denotes an *epistemic* possibility, and the possibilities I am talking about are alethic possibilities.

Such phrases as 'The possibility that 7 + 5 equal 22' are improper descriptions, precisely analogous to 'The present king of France': there is no such man as the present king of France, and there is no such possibility as the possibility that 7 + 5 equal 22.

Possibilities are *realized* or *unrealized*. For example, the possibility that Socrates have died in 399 BC is realized and the possibility that Plato have died in 399 BC is unrealized. (The phrase 'the possibility that 7 + 5 equal 22' does not denote an unrealized possibility, since it denotes nothing at all.) We could take these two terms as primitive (i.e., take either as primitive and define the other as its negation) or we could define them in terms of truth and falsity. It is perhaps clear enough what we mean by the proposition 'associated with' a possibility (the proposition associated with the possibility that Socrates have been wise is the proposition that Socrates was wise). Using that notion, we can say that a possibility is realized just in the case that its associated proposition is true and unrealized just in the case that its associated proposition is false.

Like objects of any sort, possibilities can be 'quantified over': 'Two of the dire possibilities that the Office for Nuclear Regulation had called attention to in its report were realized before as many years had passed'. If you think that quantifying over possibilities requires a 'principle of individuation' for possibilities (I'm not very strongly inclined to think that myself), I offer the following: if x and y are possibilities, then $x = y$ if and only if the proposition that is associated with x = the proposition that is associated with y. If you protest that propositions themselves are in need of a principle of individuation, I present you with a dilemma. Either a principle of individuation can be provided for propositions or one cannot. In the former case, our problem is solved. And, if no principle of individuation can be provided for propositions … well, we must quantify over propositions if we're going to say much of anything—and certainly much of anything philosophical. (Show me any lengthy piece of philosophical text, and, to a very high probability, I shall be able to find in it sentences that can be understood only as saying either that all propositions have a certain feature or that some proposition has a certain feature.) And if that is so, then it must be permissible to quantify over objects for which we have no principle of individuation. (I should perhaps mention that in this argument—and in this paper as a whole—I do not use the word 'object' in the restricted sense in which Lowe used it in his 1995 paper 'The Metaphysics of Abstract Objects', or in the many books and essays he has written in which the word 'object' is assigned a special role in his 'ontological square'. In my usage, 'object' is simply a count-noun of maximum generality. Lowe often uses the word 'entity' in just that sense. I might just as well have used 'entity' for that purpose myself.) If we individuate possibilities according as their associated propositions are individuated, this will have the consequence

that there are distinct possibilities *x* and *y* that such that, necessarily, *x* and *y* are both realized or, necessarily, *x* and *y* are both unrealized. For example, the possibility that the number of solar planets be greater than the number of Platonic solids, and the possibility that the number of solar planets be greater than the number of primes smaller than 12 are numerically distinct, although 'necessarily co-realized' possibilities.

Possibilities are extremely useful objects. It seems to me, for example, to be useful to think of possible worlds as possibilities. We may say that a possibility *x includes* a possibility *y* just in the case that it is impossible for *x* to be realized and *y* unrealized. (For example, the possibility that Socrates have been a philosopher who died in 390 BC—which is, unfortunately, unrealized—includes the realized possibility that Socrates have been either a philosopher or a king.) And each of two possibilities *precludes* the other if it is impossible for them both to be realized. (The possibility that John F. Kennedy have been assassinated and the possibility that John F. Kennedy have died a natural death preclude each other.) A possibility *x* is *comprehensive* just in the case that, for every possibility *y*, either *x* includes *y* or *x* precludes *y*. A possible world is simply a comprehensive possibility, and an actual world is simply a comprehensive possibility that is realized. (If there are distinct but necessarily co-realized possibilities, it seems reasonable to suppose that, if there are comprehensive possibilities, there are distinct but necessarily co-realized comprehensive possibilities, and, in fact, that for every comprehensive possibility *x*, there are comprehensive possibilities distinct from *x* but necessarily co-realized with *x*. If these theses are indeed true, they imply that if there are any actual worlds there is more than one.)

I am, of course, aware that in his official philosophy of modality, Lowe has been extremely critical of the use of 'possible worlds' in philosophy and would no doubt be extremely critical of my allowing such objects as possibilities to play a serious role in a philosophical argument. I would note, however, that in the presentation of the new modal ontological argument, he does present his modal reasoning in terms of possible worlds. No doubt he would say that his use of possible worlds in that context is a mere heuristic device, a device that could in principle be dispensed with. Still, none of his reasons for rejecting possible worlds as suitable for being what Jonathan Bennett likes to call 'load-bearing members' in a philosophical argument seems to me to have any force. For example, he has charged that to analyse 'Socrates is essentially human' as 'Socrates is human in every possible world in which he exists' wrongly makes what is essential to Socrates depend on objects other than Socrates rather than on Socrates' own being or nature. I must insist that it does no such thing. To say that Socrates is human in all possible worlds is simply to say that his being or nature is such that he would have been human *no matter what*—as long as he managed to exist at all. To say that Socrates is human in all possible worlds in which he exists *is* therefore to make a statement about his being or nature; it is to say that humanity is, of metaphysical necessity, inseparable from that nature.

If I am right in my criticisms of Lowe's opposition to the use of the concept 'possible world' in the philosophy of modality, it does not, of course, follow that there are such

things as possible worlds or objects of the more comprehensive sort amongst which I have located them—that is, possibilities. It nevertheless seems to me to be extremely odd to say, for example, that there exist no unrealized possibilities. That statement seems to me to imply Spinozism, the doctrine that all truths are necessary truths. But this neat little argument, like all neat little arguments in philosophy, is far from decisive. I'll ask you, therefore, to think of my larger argument as having only a conditional conclusion: *if* there are such things as possibilities, then Dependency is false.

Let us then turn to the question: *are* possibilities (if such there be) dependent objects? If they exist, does this existence of theirs depend on anything else?

Suppose it is possible—possible in the unrestricted sense; absolutely possible, metaphysically possible, possible *full stop*—for there to be chunks of transparent iron, good-sized pieces of metal made of atoms with 26 protons in their nuclei through which electromagnetic radiation with wavelengths in the 390–700 nm range can pass as easily as (in actuality) it passes through flawless sheets of optical glass. It is no doubt *physically* impossible for there to be such things, but I'm asking you to consider the possibility that the laws of nature be different from what they actually are—perhaps in worlds containing such objects the fine-structure constant has a value different from its actual value, or some such jargon. And, of course, I'm asking you to suppose that it is possible for the laws of nature to be different in a certain way: a way that would permit the existence of transparent iron. If this is indeed possible, then the—of course unrealized—possibility that there be chunks of transparent iron exists. I should say that I have chosen to use this rather esoteric example because I thought I could best make the point I am trying to make by considering a metaphysical possibility that is a physical impossibility.

On what—other than itself and its own inner nature—does the existence of this possibility depend? In one way it depends on the fact—we are pretending that this is a fact for the sake of the example; it is certainly epistemically possible (for you and me, at least) that it is a fact—it depends on, I say, the fact that it is possible for there to be transparent iron. But this is what one might call 'in virtue of' dependence, not *ontological* dependence. This possibility of there being transparent iron does not depend for its existence on the fact that it is possible for there to be transparent iron in the way in which Socrates' unit set depends for its existence on Socrates—or in the way in which the set {the fact that is possible for there to be transparent iron} depends for its existence on the fact that it is possible for there to be transparent iron. (If there are such objects as facts, then by Lowe's definition of ontological dependence, the possibility does depend ontologically on the fact—since the existence of the possibility strictly implies the existence of the fact. We have seen, however, that that definition is unsatisfactory.)

If the possibility of there being transparent iron depends on the fact that it is possible for there to be transparent iron only in the 'in virtue of' sense, and not in the ontological sense, does it then perhaps depend in the ontological sense on the *truth-makers* of the proposition that it is possible for there to be transparent iron? Well, what

are the truth-makers of that proposition? What *sort* of thing are they? Are they, for example, abstract or concrete? If they are the entities on which the possibility of there being transparent iron ultimately depends ontologically, then, if Lowe's ontological argument is sound, they must be concrete, owing to the fact that the premises of his argument entail

All abstract beings depend for their existence on concrete beings.

I am, as I have hinted, no friend of the undeservedly popular view that the idea of 'truth-makers' has some sort of role to play in metaphysics—or, truth be told, in any part of philosophy. And one of the two reasons I am no friend of this view is that I do not see what the truth-makers for *modal* propositions could be. Here is a slightly simplified presentation of a conversation I once had with the late David Armstrong (the old order passeth . . .).

PvI   David, is there a possible world in which there's nothing but an iron ball (I mean, nothing but an iron ball and such parts and constituents as it may have)?

DA   I'd suppose so, yes.

PvI   And would it be possible in such a world for there to be *two* iron balls? I mean, in a world in which there was nothing but one iron ball, would modal propositions like 'It is possible that there are two iron balls' and 'There being two iron balls is a possible state of affairs' be true?

DA   That seems the plausible thing to assume. I certainly wouldn't want to deny it.

PvI   And what, in that world, would be the truth-maker or truth-makers for those propositions?

DA   I suppose it would have to be the iron ball.

But if David was right, and I don't see what else a truth-maker theorist could say, I'm afraid I've lost whatever grip I had on the concept of a truth-maker. I can in a way see what is meant by saying that an iron ball is a truth-maker of such propositions as the proposition that there is at least one iron ball and the proposition that some things made of iron are balls, but I have no sense of what it means to say that an iron ball is the truth-maker for the proposition that there being two iron balls is a possible state of affairs—much less for the proposition that an Austrian logician's proving the incompleteness of arithmetic is a possible state of affairs (which would be one of that solitary iron ball's uncountably many feats of modal truth-making if David was right).

In the end, it seems to me that the possibility that there be chunks of transparent iron is just *there*. It exists necessarily, and, more to the point, depends on *nothing* for its existence—or on nothing besides itself and its own intrinsic nature. Although I count myself a very orthodox theist, I do not hesitate to say that it does not depend on God for its existence. God's business—*I* say—is with which possibilities are realized, not with which possibilities exist. We may, I think, imagine the act of Creation on this model: we may imagine God surveying every possibility (they are all on display in the

infinite gallery of the Divine Mind) and 'then' saying, 'Let *these* possibilities be realized and let *those* possibilities go unrealized'. But in every possible world, it is the same possibilities that he surveys. And they in no way depend on him for their existence. Many present-day Christian philosophers insist that 'If there are abstract objects, God has created them all' is a logical consequence of the Creedal statement that God is the creator of all the *invisibilia*—for any abstract object there may be must of course be an *invisibile*. And so it is, in a sense. In that same sense, however, it is a logical consequence of that statement that God created God, and hence that God is a created being. In that sense, the statement 'God can create a cubical ball' is a logical consequence of the biblical (and in fact Dominical) statement that with God all things are possible. In that sense of 'logical consequence', the statement 'Beer is a myth or at least a thing of the past; if there ever was such a liquid as beer, there isn't any such liquid today' is a logical consequence of what you say when, having assiduously searched every corner of your house, you sadly utter the words 'There's no beer'. Enough, I hope, said.

I conclude that the Abstract Dependency Principle is false, and that Lowe's new modal ontological argument has a false premise. Or, more modestly, I must conclude that *I* am convinced that Abstract Dependency is false, that *I* must regard that argument as unsound—and must also regard Lowe's argument for the weaker conclusion that it is impossible for there to be nothing concrete as unsound.

6. Envoi

It will not astonish anyone who knows both Jonathan's and my work in metaphysics to learn that there is an important metaphysical thesis—Abstract Dependency—that he accepts and that I reject. (In these closing remarks, I'm going to speak of him and me in the present tense. It seems right.) In point of fact, despite our warm personal friendship and our great respect for each other's work—our respect for the philosophical craftsmanship of the other's work, a thing in which we both delight—there is almost nothing in philosophy that we *agree* about, and this is particularly true of that part of philosophy that we both love above all others, metaphysics. In my own work, there are very few references to Jonathan's work; the few such references that do exist, I believe, are all citations whose purpose was to establish that someone held a certain view, that a certain philosophical position was in fact occupied. In Jonathan's book *Forms of Thought* there is no reference to my work at all, although I have written extensively on most of the topics he discusses. And this is how things should be, for our metaphysical views are so far apart that neither of us can make any real use of the other's work. If, for example, Jonathan's four-category ontology is anything like right, then all my work in metaphysics is fundamentally wrong, wrong from the ground up. And if the positions I defended in 'A Theory of Properties' (2004) are anything like right, then the four-category ontology is wrong from the ground up. Each of us would be hard put to it to find a single substantive sentence in the writings of the other that he agreed with. And yet, there is much more to our relationship than personal affection and the

respect for the other's intellectual honesty and philosophical craftsmanship. In philosophical *conversation*, the fact that there is little we agree about is no barrier to our exchange of ideas. For in conversation each of us is in a position to bring each other's presuppositions and unargued-for assumptions to the fore and subject them to the merciless dialectical pressure that is the lifeblood of philosophy. I have learned an immense amount about the foundations of my own thought from conversation with Jonathan—simply by being forced to think about the question, *Why* am I convinced that this, that, or the other fundamental pillar of my philosophy rests on firm ground? I hope he has learned something about the foundations of his own thought from talking with me. I don't *know* whether he has because we never discuss things of that nature: our serious talk is about philosophy and nothing else. We are both immensely shy introverts, and neither of us would ever dream of saying anything, well, *personal* to the other—anything like 'You know, even though you and I agree about hardly anything in philosophy, conversations with you have been of immense importance to my understanding of the foundations of my own philosophical positions'. I suppose that this is to be regretted—but then there probably isn't much point in wishing that two people weren't the kinds of people they are. Nevertheless, I can find it in myself to wish that I were a different sort of person and that I could have told him what I've just told you.

7. References

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