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Lowe's argument against nihilism

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1. By Nihilism I shall understand the thesis that it is metaphysically possible that there are no concrete objects. I think there is an argument, the *subtraction argument*, which proves Nihilism nicely (see Baldwin 1996 and Rodriguez-Pereyra 1997). But E. J. Lowe, who is no nihilist, has a very interesting argument purporting to show that concrete objects exist necessarily (Lowe 1996 and Lowe 1998). In this paper I shall defend Nihilism from Lowe's argument.

One thing must be made clear from the outset: Lowe does not argue that there are concrete things which exist necessarily, i.e. he does not argue for the existence of necessary concrete beings. What Lowe does argue for is that it is necessary that there are concrete entities, but these might be contingent ones. How does Lowe argue for the necessary existence of concrete entities? His anti-nihilist argument has a simple structure (Lowe 1998: 252–55):

(1) Some abstract objects, like natural numbers, exist necessarily.

(2) Abstract objects depend for their existence upon there being concrete entities.

Therefore,

(3) It is necessary that there are concrete entities.

Thus Lowe says that what defeats the subtraction argument is that abstract objects exist in every possible world and there is no possible world in which only abstract objects, and no concrete ones, exist (1998: 259). Lowe's anti-nihilist argument is, I think, valid. But I shall argue that Lowe has provided no persuasive reasons to accept the premisses of his anti-nihilist argument. I shall start by examining premiss (2).

2. How does Lowe support premiss (2)? He contends that the only possible abstract objects are universals and sets – sets being all and only abstract *particulars*. And he defends Aristotelian realism about universals, according to which universals cannot exist uninstantiated. If so, as Lowe says, the only universals which could exist in a world with no concrete entities would be universals whose instances are abstract particulars, i.e. sets. But sets cannot exist if their members do not exist. Now, as a consequence of his rejection of the empty set, Lowe admits only impure sets, whose members are non-sets. So a world in which only abstract objects exist would be a world where the only non-sets are universals whose particular instances are sets. But this is impossible, according to Lowe, 'for in such a world the sets depend for their existence upon the universals and the universals depend for their existence upon the sets, creating a vicious circle which deprives both universals and sets of the possibility of existence' (1998: 254). So, Lowe concludes, there cannot be a world which only contains universals and sets and hence there cannot be a world in which only abstract objects exist. Thus abstract objects depend for their existence upon that of concrete entities – for if there are abstract objects there are concrete entities.

But Lowe's argument for premiss (2) can be challenged. For it is not clear why the dependence of universals on sets and of sets on universals would make a world with only universals and sets impossible. Since the universals of which sets are instances are natural numbers (1998: 220), a world with only universals and sets would be a world whose only universals are natural numbers whose instances are sets of natural numbers (and/or sets). There would indeed be mutual existential dependence between sets and numbers in such a world – but why would such a mutual dependence make it impossible?

In what way or ways are sets and numbers mutually dependent? One way in which they are mutually dependent in the world envisaged is what Lowe calls *weak existential dependence* and corresponds to his definition (D1) (1998: 137, 153). According to (D1) that x depends for its existence upon y means that necessarily x exists only if y exists.

Does this mutual dependence between numbers and sets prevent there being a world with only numbers and sets? It would be strange if it did, for Lowe himself admits other instances of mutual weak existential dependence as unproblematic – e.g. Socrates and his life are mutually existentially dependent (1998: 143, 153) and any two natural numbers are mutually weakly existentially dependent (1998: 160, 254).[1] Furthermore, numbers and sets are mutually weakly existentially dependent in every possible world. For in every possible world it is necessary that numbers 5 and 6 exist (and this is every possible world according to Lowe) only if the set {5, 6} exists; and in every possible world it is necessary that the set {5, 6} exists only if its members 5 and 6 exist.[2] But if this sort of mutual dependence between sets and numbers does not make impossible other possible worlds in which sets and numbers exist, it surely cannot make impossible the world in which only sets and numbers exist.

There is another way in which numbers and sets are mutually dependent. This is *generic dependence*, captured by Lowe's definition (D1g) (1998: 141). That x generically depends upon objects of type T means that necessarily x exists only if something y exists such that y is of type T. It is clear that numbers generically depend on sets according to Lowe, for he takes numbers to be universals whose instances are sets and, as we saw, he adheres to a version of realism about universals according to which universals cannot exist uninstantiated. And he must also admit that sets are generically dependent on numbers. For if a particular instantiates a universal, the universal exists; and sets are necessarily instances of numbers. So necessarily, if sets exist, numbers do.

But this mutual generic dependence cannot be what makes a world where the only non-sets are numbers impossible. For mutual generic dependence is innocuous: universals and particulars are, in Lowe's and others' metaphysics, mutually generically dependent, since universals cannot exist without being instantiated by particulars (1998: 159) and particulars cannot exist without instantiating certain universals (1998: 155).

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[1] Lowe's commitment to the mutual weak existential dependence between any two numbers, although not explicit, is very clear (and reasonable). At one point Lowe says that 'each number depends for its identity on the identity of the others, because its identity is determined by its position in the number series' (1998: 160). What Lowe actually affirms here is the mutual *strong* existential dependence, or identity dependence, between numbers, a sort of dependence about which I shall say more below. But he has a theorem, (T5), according to which strong existential dependence entails weak existential dependence (1998: 150). Another point at which Lowe commits himself to the mutual weak existential dependence between numbers is when he says that 'the idea that only the first n natural numbers might exist in a world is hard to swallow' and that 'surely, if any natural numbers exists, they all do' (1998: 254).

[2] Lowe accepts both claims. First, he explicitly says that sets cannot exist without their members (1998: 253–54). Second, he also believes that necessarily if x and y exist then $\{x, y\}$ exists (or so I take what he says in 1998: 223). A systematic reason why Lowe *must* believe that necessarily if x and y exist then $\{x, y\}$ exists might be that for him sets are the instances of numbers and numbers must have instances, and so a world where x and y exist is a world where there are two things and so it must be a world where the number 2 has some instances, one of which is the set $\{x, y\}$.

Furthermore, sets and numbers are mutually generically dependent in every possible world. For in every possible world it is necessary that numbers exist only if sets exist, since numbers are universals whose instances are sets and, according to Lowe, universals cannot exist uninstantiated; and in every possible world it is necessary that sets exist only if numbers exist, since sets are necessarily instances of numbers. But if this sort of mutual dependence between sets and numbers does not make impossible other possible worlds in which sets and numbers exist, it surely cannot make impossible the world in which only sets and numbers exist.

But there is another sort of dependence such that mutual dependence between sets and numbers would create a vicious circle depriving sets and numbers from the possibility of existence. This is *strong existential dependence* or *identity dependence*, captured by Lowe's definition (D1**) (1998: 147). That x is strongly existentially or identity dependent upon y means that necessarily the identity of x depends on the identity of y in that which thing of its kind y is fixes or metaphysically determines which thing of its kind x is (1998: 147). Lowe disallows mutual identity dependence. Indeed he maintains that if x is not identical with y and the identity of x depends on the identity of y, then the identity of y does *not* depend on the identity of x (1998: 150). The reason is that for Lowe identity criteria fulfil an explanatory function that requires them not to be viciously circular. An identity criterion is viciously circular for Lowe if it specifies identity conditions for certain objects in terms of other objects whose identity must in turn be specified or understood in terms of the former objects (1998: 42–3, 45). If identity criteria have to perform an explanatory rôle then I agree that mutual identity dependence must be disallowed.[3]

But are sets and numbers mutually identity dependent? The sets existing in a world where only sets and numbers exist are clearly identity dependent on numbers, for sets in general are identity dependent on their members (1998: 147, 160). But numbers are not identity dependent on any sets. For in general the identity of a universal is not dependent upon the identity of their instances. Indeed according to Lowe universals do not even weakly existentially depend on their instances (1998: 139–40) – but from this it

[3] It is puzzling then that Lowe admits, as we saw, that numbers are mutually identity dependent (1998: 160; see footnote 1 above).

follows that universals are not identity dependent on their instances either, for identity or strong existential dependence entails weak existential dependence.

Furthermore Lowe says that the identity of numbers is determined by their position in the number series (1998: 160). But then what fixes the identity of numbers is, necessarily, their position in the numbers series and so the identity of numbers depends on their position in the series in every possible world, including the one containing only numbers and sets. So what fixes the identity of {7} is the identity of 7 – but the identity of {7} does not fix that of 7. But if numbers and sets are not mutually identity dependent then there is nothing preventing the existence of a world where only they exist, which would be a world where only abstract objects exist.

We have considered three sorts of dependence in which sets and numbers can be mutually dependent: weak existential dependence, generic dependence and identity dependence. The first two sorts of dependence are such that sets and numbers are mutually dependent, but this does not make a world with only abstract objects impossible. The third sot of dependence is such that mutual dependence between sets and numbers would render a world with only abstract objects impossible – but sets and numbers are not mutually dependent in that way. I conclude that Lowe has failed to support premiss (2) of his argument against Nihilism.

3. How does Lowe support his premiss (1)? Lowe says that there are mathematical truths, that these truths are necessarily true and that numbers are the truthmakers of mathematical truths. So, Lowe concludes, numbers must exist in every world where those truths are true and, since those truths are necessarily true, numbers must exist in every possible world. A world in which numbers did not exist would be a world in which it was not true that 2 plus 2 equals 4 but, Lowe says, it is hard to make sense of the thought that mathematical truths are only contingently true (1998: 255).

Lowe is aware that this assumes that mathematical fictionalism is false and that mathematical truths have truthmakers; I shall grant those assumptions. The problem with Lowe's argument for premiss (1) lies in his thesis that mathematical truths are necessarily or non-contingently true. As we shall now see, this thesis might be taken in two different senses, neither of which serves Lowe's purposes.

That mathematical truths are necessarily true might be taken to mean that a mathematical truth could not have been false in virtue of a mathematical falsity having been true, e.g. 2 plus 2 equals 4 is necessarily true because 2 plus 2 could not have equaled any other number. But this is not the sense in which Lowe needs mathematical truths to be necessary, for it leaves open the possibility of a world where there are no mathematical truths at all – and this would be a world where there are no numbers.

What Lowe needs to support premiss (1) is that mathematical truths be necessary in the sense that there is no possible world where there are no mathematical truths. Only then, assuming that mathematical truths need numbers as truthmakers, does it follow that numbers exist necessarily. But using the thesis that there is no possible world where there are no mathematical truths to support premiss (1) begs the question. For according to Lowe the truthbearers of those mathematical truths are mathematical propositions (1998: 255). But propositions are abstract entities (1998: 253). So Lowe tries to support premiss (1), which states that some abstract objects, like natural numbers, are necessarily existent, by assuming that some other abstract objects, like propositions, are necessarily existent.

Could Lowe avoid this problem by denying that propositions are truthbearers? No, for in his metaphysics everything is either abstract or concrete (1998: 154). If Lowe takes the truthbearers of mathematical truths to be abstract then, as we saw, he cannot argue for premiss (1) in the way he does without assuming what premiss (1) states. And if Lowe takes the truthbearers of mathematical truths to be concrete then he cannot argue for premiss (1) in the way he does without assuming what the conclusion of his anti-nihilist argument states, namely that concrete objects necessarily exist. Either way of supporting premiss (1) begs a question.

We have seen that to support premiss (1) Lowe uses the thesis that mathematical truths are necessary. We have also seen that this thesis can be interpreted in two different ways: on one interpretation it does not support premiss (1), on the other it begs a question. I conclude that Lowe has not given good reasons to believe in his premiss (1).

4. Lowe has offered an interesting and short argument against Nihilism. But Lowe has given no persuasive reasons why we should believe the premisses of his anti-nihilist argument. There is no reason to abandon Nihilism, which remains well supported by the subtraction argument.[4]

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