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Heavyweight Quantification As Restricted Quantification

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Abstract There is a shared dogma among contemporary metaontologists that heavyweight quantification is unrestricted quantification. In this paper I present an exclusion argument for heavyweight ontological realism and outline a new conception of lightweight and heavyweight quantification based on the rejection of this dogma.

Keywords ontological realism, maximalism, quantification (restricted–unrestricted, lightweight–heavyweight), quantifier variance

There is a shared dogma among contemporary ontologists that heavyweight quantification is unrestricted quantification. It was, I believe, David Lewis (1986) who introduced the notion of unrestricted quantification into metaphysics to provide a conciliatory account of the apparent discrepancy between his revisionary ontology and common sense ontology concerning mereological sums and concrete possibilia. There is no real conflict between the ontologist's revisionary claims and common sense, because revisionary claims involve unrestricted quantification while common sense claims involve restricted quantification.

This dogma is also reflected on the higher level of metaontology in Eli Hirsch's (2002 and 2008) puzzling doctrine of quantifier variance. We are told, for instance, that in the ontological dispute about composition the universalist and the nihilist are both right. If it were just a matter of restricting the shared existential quantifier, the nihilist using restricted quantification where the universalist uses unrestricted quantification, only the universalist would be right. So each is using an unrestricted quantifier, albeit a different one.

In this paper I will present an exclusion argument for heavyweight ontological realism based on the rejection of this dogma and outline a new conception of lightweight and heavyweight quantification.

But first, some definition-mongering. David Chalmers (2009), from whom these terms are borrowed, characterizes heavyweight ontological realism as the combination of ontological realism and heavyweight quantificationism. Ontological

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realism is the view that the world has ontological joints, or, as Chalmers (*ibid*: 92) says, that ontological existential assertions have objective and determinate truth-values (ontological existential assertions are made in the philosophy room).

Heavyweight quantificationism is the view that ontological existential assertions always involve heavyweight quantification. Heavyweight quantification is contrasted with lightweight quantification. The truth-values of lightweight quantifications are always trivial or shallow somehow. They are *a priori* knowable, perhaps because they analytically or conceptually follow (e.g. 'Numbers exist' made in the math room). In opposition to that, the truth-values of heavyweight quantifications are never trivial or shallow in this way ('Numbers exist' made in the philosophy room). As Chalmers (*ibid*: 96) says, their truth-value depends on substantial philosophical considerations that go well beyond elementary reasoning. So heavyweight ontological realism is the view that ontological existential assertions have objective and determinate truth-values that are never trivial or shallow.

Heavyweight realism has two rivals, ontological anti-realism and lightweight realism. Lightweight realism is based on the idea that ontological realism is compatible with ontological deflationism. Lightweight realists are deflationists about ontology. Ontological existential assertions have objective and determinate truth-values, but their truth or falsity is always trivial or shallow, so are lightweight quantifications.

Ontological anti-realism is the denial of ontological realism. Ontological antirealism is best illustrated by a picture of the world as an amorphous lump. In this picture the world has no objective ontological structure and has no ontological joints. So, if ontology is about carving at the joints, any ontology is as good as any other, for there is nothing for it to match. That is, no ontological existential assertion has an objective or determinate truth-value (a weaker version would be that not every one of them has an objective or determinate truth-value, but I focus on the ultra-strong version here). I distinguish three brands of ontological anti-realism along the way ontological existential assertions might fail to have objective and determinate truth-value: noncognitivism, pluralism and indeterminism. Ontological noncognitivism denies that ontological existential assertions are truth-apt (I set this one aside). Ontological pluralism denies that ontological existential assertions have objective truth-values, hence there can be many different but equally good quantifier meanings, since there are no objective ontological facts out there in the world which any of them could fail to capture. Ontological indeterminism denies that ontological existential assertions have determinate truth-values, hence there can be many different but equally good precisifications of the vague quantifier, since there are no determinate ontological facts out there in the world which any of them could miss.

These characterizations make it apparent that quantifier variance lies at the heart of ontological pluralism and ontological indeterminism. Quantifier variance is the doctrine that (i) there are many candidate meanings (precisifications) for the quantifier expressions, and (ii) none of the candidate meanings (precisifications) is distinguished. There are arguments against both claims of quantifier variance. Promiscuity arguments, like Ted Sider's (2001, 2003) *indeterminacy argument* or Matti Eklund's (2007) *tarskian argument,* are directed against (i), and Sider's (2009) *naturalness argument* targets (ii).

But are they arguments for heavyweight realism? Not quite. As I see it, promiscuity arguments are effective against anti-realism insofar as it involves quantifier variance, but they only prove lightweight realism. The naturalness argument is

an argument for heavyweight realism, but is only effective against lightweight realism, and so has limited use (for if the world has ontological joints, one can argue that among the many candidate meanings there is a single, most natural quantifier meaning that carves at the joints, but if the world is just an amorphous lump there cannot be a most natural meaning, I suppose). What's more, the heavyweight realist cannot use both arguments, because promiscuity arguments seem to undermine the naturalness argument (see Liebesman-Eklund 2007).

Forget the naturalness argument and concentrate on promiscuity arguments! I think we can forge an argument for heavyweight realism based on them. I shall briefly present Sider's indeterminacy argument and its counterpart against multiple candidate meanings.

Suppose it is indeterminate whether $\exists x.Fx$, because the unrestricted quantifier $\exists$ is semantically vague (F is not vague). Let $\exists_1$ and $\exists_2$ be such precisifications of $\exists$ that $\exists_1 x.Fx$ is determinately true and $\exists_2 x.Fx$ is determinately false. Hence there is some object in $\exists_1$'s domain that is not in $\exists_2$'s domain. Thus $\exists_2$ does not range over everything so it cannot be a precisification of $\exists$. Thus $\exists$ cannot have different precisifications, since the most promiscuous of the supposed precisifications is the only one it can have. Which means that the quantifier meaning cannot be vague. But if the quantifier meaning cannot be vague, nor can the truth-value of ontological existential assertions be vague. Ontological indeterminism is false.

The same reasoning applies when $\exists_1$ and $\exists_2$ are possible meanings of $\exists$. The most promiscuous candidate meaning will be the real quantifier meaning. Hence there must be a single quantifier meaning. But if there is a single quantifier meaning, our linguistic decisions do not determine the meaning of the quantifier expressions, and therefore, do not determine the truth-value of ontological existential assertions. Hence, ontological pluralism is false. Let me simply assume that these promiscuity arguments are sound and prove that ontological anti-realism is false and realism is true.

But these promiscuity arguments lead to a decadent ontology, or maximalism that is lightweight. Maximalism is the view that everything that can exist exists, that every ontological existential assertion that is possibly true is true. So the truth-value of ontological existential assertions will be trivial or shallow, which implies that they involve lightweight quantification. In this maximalism there is only a single lightweight quantifier with an absolutely unrestricted domain. I shall call it *absolute maximalism* to distinguish it from Eklund's (2007) maximalism, which imposes some restrictions on his quantifier domain. According to Chalmers (*ibid*) participants in ontological disputes purport to express with 'exist' a single, primitive concept, absolute existential quantification. That is, he takes absolute existential quantification to be heavyweight, but doubts if there really is such a concept. I see it the other way round. The concept of absolute existential quantification is real, but lightweight.

Absolute maximalism however faces the potential problem of incompatible objects as Eklund (*ibid*: 382) calls it. As he says we might argue that there are two kinds of objects the Fs and the Gs, such that the Fs satisfy the maximalist condition for existence and so do the Gs (they are each possible), but it is logically impossible for the Fs and the Gs to coexist. It is not obvious how can objects be incompatible, but there is certainly a feel to it that an ontology which incorporates any possible ontology can easily turn out to be inconsistent. At any rate, I won't argue for it now. I shall simply assume that the argument is sound and prove that absolute maximalism is false.

What now? We have an absolute lightweight quantifier with a domain of incompatible objects. It is at this point that serious ontology begins. The ontologist must restrict the lightweight quantifier to a subset. He may settle for minimal conditions, consistency for instance, aiming at the largest possible subset that is consistent. However his restricted quantifier is not lightweight anymore. For it is no longer trivial whether his restriction is enough. Empirical adequacy, theoretical utility, and the like are still further restrictions of this single existential quantifier. But to repeat restriction makes the quantifier heavy. It is never trivial that a given restriction is adequate, which explains why heavyweight quantification is never trivial. Basically, warring ontologists are imposing different restrictions on one and the same existential quantifier, so ontological disputes basically revolve around restrictions. And it is at this point that an argument similar to Sider's naturalness argument might be used to prove that there is a *most natural* quantifier restriction which carves at the joints of reality. The ontologist who hits upon it will hit the ontological structure of the world.

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