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A Careful Inspection on Priest's Recent View about **Nothing***

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Abstract. Graham Priest has recently argued, in several of his papers and a book manuscript, for a view about **nothing** according to which **nothing** is paradoxical in several respects. The focus of the present paper is on three sub-claims of his view: (1) that **nothing** is an object, (w) that **nothing** is not an object, and (3) that everything grounds for its being on its being different from **nothing**. The author argues, both philosophically and formally, in this paper that Priest's arguments for the above sub-claims are not persuasive enough. Especially, the author argues that Priest's formal theory of **nothing** will suffer from a dilemma: either it will allow that there is a paradise of many **nothing**s and therefore embrace an inflated ontology, or it will identify all **nothing**s to be one and the same thing and therefore make everything ground everything in a certain sense.

G. Priest has recently argued, in several of his papers and a book manuscript ([5, 6, 7, 9]), for a view about **nothing** according to which **nothing** is paradoxical in at least three respects:[1] (1) **nothing** is both an object and not an object; (2) it is both true and not true that everything grounds for its being on its being different from **nothing**; in particular, **nothing** both grounds and does not ground for its being on its being different from **nothing**; (3) **nothing** is both effable and not effable. My focus in this paper will be on three sub-claims of the above view: (1a) that **nothing** is an object, (1b) that **nothing** is not an object, and (2a) that everything grounds for its being on its being different from **nothing**. In what follows, I will give my reasons, both philosophically and formally, why Priest's arguments for these sub-claims are not persuasive enough. Before I start, however, let me remind my readers how the word "nothing" will be used in the present paper: following Priest, I will always use the boldface "**nothing**" (and "**everything**") as a noun phrase intended (by Priest and some other philosophers also) to refer to some ontological entity, and I will always use the non-boldface "nothing" (and "everything") as a quantifier.

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[1] Actually, **nothing** has more paradoxical features than the following three. For example, one can easily prove from Priest's formal theory of **nothing** that Priest's **nothing** is both a part and not a part of itself, both overlap and does not overlap with itself, and so on. However, these other respects are not interesting enough for Priest's and my purpose, so I will ignore these extra paradoxical features of **nothing** in this paper.

1 Philosophical Reflections on Priest's View about Nothing

Let me begin with this question: what is **nothing** for Priest, anyway? Priest has conceived **nothing** in four slightly different but equivalent ways: (a) as the mereological fusion (or mereological sum) of no things ([9, p. 2]), (b) as the mereological fusion of the members in the empty set[2], (c) as the mereological fusion of everything that is not identical with itself[3], and (d) as the absence of all things.[4] By defining **nothing** in these ways, Priest thinks that he can argue plausibly and even prove formally that **nothing** has the above listed contradictory features (1)-(3). I will try to argue in this section that his arguments are not philosophically persuasive enough, and I will prove formally in the next section that his formal theory of **nothing** is both too weak and problematic. By listing his ways of defining **nothing**, I also hope that readers can see that, though Priest has mentioned Heidegger, Hegel, Sartre, Nishida, Eckhart, Nagarjuna, and even Louzhi (or Wang Bi) in his recent papers and the book manuscript on **nothing**, one should hesitate to identify his **nothing** with any of the things that these philosophers have in mind.

Now, why does Priest hold the view listed above? Why do I think that they are not philosophically persuasive enough? In order to get a quick grab of the answers to these questions, it may be helpful to understand that Priest, though both a philosophical and a logical genius, has been a very controversial philosopher and logician due to his three philosophical positions that differ from mine and many others'. First, Priest is a Meinongian ([4]) but I am not: he believes that some objects do not exist, but I do not think so.[5] Second, he is a dialetheist ([3]) but I am not: he believes that some, though not all, contradictions are true, as witnessed by various kinds of paradoxes. I, however, do not think that dialetheism is the right conclusion that we should reach when philosophizing paradoxes. Finally, he is a paraconsistent logician ([3]) but I am not: he believes that the rule of explosion, or the rule that everything follows from a contradiction, should not be a valid rule, though it is valid in classic logic. Since I am more sympathetic with his paraconsistent position, I will, in what follows, not try to reject his view simply by objecting to his logical position.

That said, then, why is **nothing** something, i.e., an object, according to Priest? To Priest, **nothing** is a non-existent[6] object just like Sherlock Holmes is, and this

[2]See [5, p. 152], but Priest drops this characterization recently to avoid "irrelevant issues concerning set theory" (forthcoming, footnote 5 of Chapter 5).

[3]Because being an object is logically equivalent to being self-identical. See [9, pp. 27–28].

[4]The final one is also characterized as the mereological completement of **everything** relative to **everything**, where **everything** is the fusion of all things ([9, p. 2]). See also [5, p. 151].

[5]By "exist", Priest means "having causal power". Since Priest believes that abstract entities are as causally powerless as Meinongian objects, he would count abstract objects as non-existing as well.

[6]Priest ([9, p. 24]) defines "existence" as "the potential to be the subject of cause or effect" and thus classifies abstract entities, such as properties and numbers, as non-existent. **Nothing**, however, is none

view about **nothing** is supposed to be an example of the Meinongian doctrine. When arguing for the Meinongian doctrine, a Meinongian typically will either appeal to the intentionality (or the "aboutness") thesis about our minds and languages or appeal to our linguistic intuitions about certain sentences involving empty names, especially to our linguistic intuition about the so-called characterization principle, CP, that sentences of the form "The ϕ is a ϕ" (or "A ϕ is a ϕ") are always true. Priest, however, does not accept CP for, I think, good reasons.[7,8] Therefore, the only philosophical reason he offers to the claim (1a) that **nothing** is an object is the intentionality thesis, a controversial thesis proposed by Meinong, about our languages and minds: to think or to write or to talk about whatsoever is, at least, to be about something. As Priest ([9, pp. 66–67], the *italic* is mine) says:

> Suppose that I am thinking of Gottlob Frege. Then I am thinking of something. ... In a similar way, suppose that I am thinking of Sherlock Holmes. Then for exactly the same reason, I am thinking of something, viz. Sherlock Holmes. That character is the content of my thought. It makes no difference that Sherlock does not exist. The phenomenology is exactly the same in both cases. ... Moreover, you can think of **nothing**. You are now. Phenomenologically, **nothing** is present to your thought. Your thought certainly has content; you are thinking of something—and that something is **nothing**. I note that this argument could be run for any noun phrase that you understand. Here, then, we have an argument that [every] *noun-phrase, and a fortiori [every] definite description, refer* [to some object that satisfies the description in some possible or impossible world].

Here, however, I disagree with Priest. I think that there is no such object as **nothing**; or, more precisely, I do not think that the noun "**nothing**", as well as the name "Sherlock Holmes", refers to anything at all. My objection to the claim (1a) is based on the following considerations. First, the intentionality thesis proposed by Meinong notoriously leads to an inflate ontology that offends our common sense, and it also

of these "non-existent" objects.

[7] See [9, pp. 26–28]. Note that, though Priest does not think that CP is true in general, he nevertheless accepts a restricted version of it, which he calls RCP: if there are objects satisfying ϕ, then the ϕ (or a ϕ) will be one of the ϕs. To my opinion, even this RCP should not be accepted. Consider the case that a fiction author intends to write a fiction about an object that is characterized by the author as "the ϕ" (or "a ϕ"). Not known by the author, however, there really are several ϕs existing when he wrote the story. According to Priest's Neo-Meinongian position, since there are actually several ϕs existing, therefore, by RCP, the story must be about one of these ϕs — but this conclusion does not seem to me to be right.

[8] Note again that, though Priest does not think that CP is true in general, he nevertheless thinks that the object picked out by the ϕ (or a ϕ) should satisfy ϕ in some possible or impossible world. To my opinion, even this Neo-Meinongian view can't be right, as I will argue in the next section.

attributes an improper magic power to our mental ability: thinking whatever there is makes something being there. Second, while agreeing with Meinong that the main distinction between mental activities and physical ones consists in the former's, but not the latter's, being intentional, I nevertheless take the intentionality of our minds, thoughts, and languages to consist in their intending or having the potentiality to be about an object. The intention or the potentiality to be about an object can, of course, fail or "misfire". If I am right about this, then anyone's thinking, writing, talking, or experiencing "about" **nothing** does not guarantee that there is such an object as **nothing**. Third, as I will argue in the next section, it is not even right to say that every meaningful noun-phrases and every (in)definite descriptions refers to some object that satisfies the description in some possible or impossible world. Fourth and more importantly, I think that Priest's argument for (1a) will soon lead to a paradise of **nothing**s: if we accept Priest's argument for the claim that **nothing** (let us call his **nothing** "**nothing**$_s$", where the subscribed "s" stands for "sum", to distinguish it from those **nothing**s listed below) is both an object and not an object, then, for exactly the same reason, we should also accept that each of the followings should also be both an object and not an object:

nothing$_1$: the largest proper parts of **nothing**$_s$.
nothing$_2$: the second largest proper parts of **nothing**$_s$.
. . .
nothing$_{W,P}$: the fusion of the overlapped parts of my body and Priest's.
nothing$_{W,T}$: the fusion of the overlapped parts of my body and Trump's.
. . .
nothing$_{W-W}$: the mereological complement of my body relative to my body.
nothing$_{P-P}$: the mereological complement of Priest's body relative to his body.
. . .

Not only do we have to accept each of the above items as both an object and not an object, which looks absurd to me, we also have to conclude, if Priest's argument for the grounding nature of **nothing** is plausible, that everything also grounds for its being on its being different from each of the **nothing**s listed above, and this is more difficult to swallow to me. To be sure, it may be retorted that all these **nothing**s listed here are just one and the same object on the ground that they are mereologically the same, i.e., all of them are mereologically "empty" or "null". I, however, will not be persuaded by this response for at least three reasons. First, it can't simply be assumed that these **nothing**s are mereologically the same; after all, their being pairwise different is a logical possibility, as we will see in the next section. Second, even if they are mereologically the same, we can still appeal to Leibniz's principle of indiscernibility of identicals to argue for their being pairwise different. For example, the emptiness of $\textbf{nothing}_{W,P}$ is contingent on the actual disjointness of my body and Priest's body, while Priest's $\textbf{nothing}_s$ is not. Finally, if we identify all these **nothing**s as one and the same object, Priest may have trouble arguing for his claim (2a) that everything grounds for its being on its being different from **nothing**. For, as we will see below, if there is only one thing that is both an object and not an object, then not only will everything ground its being an object on its being different from **nothing**, its being different from **nothing** will also ground on its being an object. Worse, given that grounding relation is transitive, it follows that everything grounds its being an object on anything's being an object — a ridiculous result to me.

So, to me, it is simply not true to say that **nothing** is an object. However, this does not mean that I will agree with Priest and say that, therefore, **nothing** is not an object. In my opinion, if the term "**nothing**" does not refer to anything, then whatever you say involving it will not be true (and not be false either). My position about this is none but the old doctrine in Plato's *Sophist* (262e) that "[w]henever there is a statement, it must be about something; it cannot be about nothing" ([2]) and an obvious consequence of Frege's principle of compositionality ([1]). So, it is also not true to me to assert (1b) that **nothing** is not an object. The most we can say, I think, is that the word "**nothing**" does not refer to any object, and this sentence is not about the non-existent entity **nothing**, but about the real linguistic entity "**nothing**".

To be sure, Priest ([6]; [9, p. 65]) claims proudly that he has a "proof" for (1b) that **nothing** is not an object, yet, as we will see more clearly, his "proof" has at least three problems. First, it presupposes the Meinongian doctrine that whenever "**nothing**" appears in a meaningful sentence or in a sensible thought, it is always about something. Second, it appeals to a principle, i.e., the Restricted Characterization Principle or RCP, accepted by Priest, which, unfortunately, is arguably dubious to me.[9] Third, it also appeals to a dogmatic claim that there actually is at least one object satisfying the way (or ways) Priest characterizes **nothing**.[10] Due to these problems, I think that Priest's claim (1b) that **nothing** is not an object is even more implausible than his claim (1a) that **nothing** is an object.

Finally, let us ask the question why (2a) is true for Priest, i.e., why everything grounds for its being on its being different from **nothing** for Priest. When arguing for (2a), Priest appeals to the notion of "counterfactual dependence" as a rough criterion[11]

[9] See the previous footnote 7 to see why I think that RCP is dubious.

[10] As we will see in the following, in order for Priest to prove the conclusion that **nothing** is not an object, not only will he assume the Meinongian doctrine and CP, he also needs to assume the dogmatic claim mentioned here. Actually, his **P4n** presupposed exactly the first and third problems mentioned here.

[11] Priest ([9, pp. 109–110]) knows very well that this criterion can't be right for testing every grounding claim, so he says that it is only "a kind of ceteris paribus criterion", subject to several restrictions. However, since he thinks, and I will take it too, that his argument for (2a) violates none of these restrictions, I will ignore this reservation in the following discussion.

for testing whether a grounding claim between facts is true, and the criterion says this (where [A] and [B] are two facts): [A] depends on or is grounded on [B] just if (if B were not the case, A would not be the case).[12] By using this rough criterion, Priest argues that, for every object g, [g's being an object] is grounded on [g's being different from **nothing**][13]: *but not the reverse*. Yet, why does the grounding relation hold in one direction but not in another direction? Here is a simple reply from Priest ([8, p. 19], *italic* mine):

> Something (g) being an object depends on its being distinct from **nothing**. If g were the same (in ontological status) as **nothing**, it would not be an object, since **nothing** is not an object. The dependence does not go the other way. If g were not an object, it would not follow that it is identical with **nothing**. *There may be nonobjects other than nothing.*

There are, according to my opinion, several problems with Priest's claim (2a). One problem is that the requirement of the counterfactual dependence is both too weak and too strong for judging a criterion of a grounding claim. It is too weak because the counterfactual dependence relation is widely believed to be weaker than the necessitation relation (i.e., when the fact that [B] necessitates [A], [A] will counterfactually depend on [B], but not vice versa), and it is widely believed that even the necessitation relation is not strong enough for judging a grounding claim (e.g., [2+2 = 4] necessitate [3+5 = 8], but the latter fact is not grounded on the former). It is too strong because it is not necessarily true that when [A] is grounding on [B], then if [B] would not be the case then [A] would not be the case either. For example, consider the case of a true disjunctive fact [A or B], where both [A] and [B] are also facts. In this case, it seems intuitively right to say that the fact [A or B] is both grounded on [A] and grounded on [B]. However, if [A] (or if [B]) were not a fact, [A or B] would still be a fact.

To me, the most serious problem about the claim (2a) is, however, that it is not so clear that the reverse does not hold. i.e., it is not so clear that it is not true that if [g's being an object] were not the case, then [g's being different from **nothing**] would not be the case, or, more simply, it is not so clear that it is not true that if g were not an object then g **would** be identical with **nothing**. Priest contends that the reverse does not hold by saying that "there may be nonobjects other than **nothing**".

[12] See [8, p. 18]. Actually, Priest is a bit inconsistent between what he says here and what he says later on, for he adds to the criterion in the book manuscript (forthcoming) with the following restriction: "where the counterfactual expresses an appropriate kind of metaphysical explanation of A by B". In a sense, this added phrase makes the criterion circular, for many philosophers think that grounding relation simply *is* an explanatory relation. In what follows, I will ignore the added phrase that appears in the book manuscript.

[13] When A is a true sentence, I use the symbol [A] to stand for the fact that A indicates.

Yet, are these nonobjects other than **nothing** those **nothing**s in the paradise that I mentioned before? Is so, unpleasant results follow. One of the unpleasant results is that everything (including **nothing**$_s$) will also ground its being on being different from each of these **nothing**s in the paradise. The second unpleasant result is that the grounding relation will therefore no more be an irreflexive and asymmetric relation as many philosophers believe it to be. Yet, more importantly, once we have this paradise of **nothing**s, we will have a dilemma: either we identify all these **nothing**s as one and the same object but are no more able to say that the reverse counterfactual fails, or we are pushed to distinguish each of them from one another without a philosophically plausible ground, and we will have a genuine paradise for **nothing**s and an inflated ontology. Worse, if the grounding relation is a transitive one, it further follows that, no matter how we solve the dilemma, everything is grounded on everything in a sense, as witnessed by the fact that **nothing**$_{W,P}$ obviously depends for its being on the being of my body and Priest's while everything else depends also for its being on their being different from **nothing**$_{W,P}$.

I think that the above criticisms reveal serious problems of Priest's recent view about **nothing**s. In order to see the problems more clearly, I now suggest that we turn to the formal part of Priest's recent view about **nothing**s in his forthcoming book manuscript.

2 Formal Examination of Priest's View of Nothing

Priest also proposes a formal axiomatic theory (call the theory "**P**",) of mereology involving **nothing** and **everything** (in which the purpose of the introduction of **everything** is to provide a supplementary but provably equivalent way of analyzing what **nothing** is) to show that the paradoxical features listed in the beginning of this paper as well as those three sub-claims that are the targets of the present paper are not only philosophically defensible but also provable in a logically precise way. Let's now take a close look at this axiomatic theory **P**.

The language of the theory **P** is a standard first-order language[14] with $\{=, <\}$ as the primitive predicates. Individual constants and indefinite descriptions (or definite descriptions if you like) of the form "$\varepsilon x A$", where A is any wff of the language, are referring terms of **P**. (**P** does not contain any function symbol for the sake of simplicity.) The semantics of the language is, however, a non-classical one with the extra truth-value "b", standing for "both true and false", beside the classical truth values true and false. Trying to be faithful to Priest's usage, I will use the symbol

[14]Though the quantifiers ("U" and "E" in symbols) in **P** are supposed to be free of existential implication, I will, however, use the ordinary first-order quantifiers ("$\forall$" and "$\exists$") in what follows. This is allowed only because what I will discuss below has nothing to do with the question whether **nothing** (or anything) is an existent object or not.

"$+$" to stand for the truth-value "true (only)", "$-$" to stand for the truth-value "false (only)", and "$\pm$" to stand for the truth-value "both true and false".

A model of the theory **P** is any triple $M = \langle D, \delta, \Phi \rangle$ that satisfies the following conditions: (i) $D \neq \emptyset$; (ii) Φ is a choice function on $\wp(D)^2$, i.e., for any set $X \subseteq D$, $Y \subseteq D$ and $X \neq \emptyset$, $\Phi(\langle X, Y \rangle) \in X$; and (iii) δ is any function that satisfies the following four conditions. (a) For every constant c of the language, $\delta(c) \in D$. (b) For every wff A, $\delta(\varepsilon x A) = \Phi(\langle \{d : M \vDash^+ A_x(k_d)\}, \{d : M \vDash^- A_x(k_d)\} \rangle)$ if $\{d : M \vDash^+ A_x(k_d)\}$ is non-empty; otherwise, it is some fixed but arbitrary member of D.[15] (c) For every n-place predicate P^n, $\delta(P^n) = \langle \delta^+(P^n), \delta^-(P^n) \rangle$ such that $\delta^+(P^n) \cup \delta^-(P^n) = D^n$. (d) $\delta^+(=) = \{\langle d, d \rangle : d \in D\}$. Since it is not excluded that some member of D may be both in $\delta^+(P^n)$ and in $\delta^-(P^n)$, even both in $\delta^+(=)$ and in $\delta^-(=)$, the semantics is actually an extension of the famous semantics for logic of contradiction (LP) proposed by [3].

Given a model, we can evaluate the truth values of simple and complex sentences in the following way (here, t_i stands for any constant or indefinite description, "$M \vDash^+ \alpha$" means that "α is true in M" while "$M \vDash^- \alpha$" means that "α is false in M"):

$$M \vDash^+ P^n t_1 \cdots t_n \text{ iff } \langle \delta(t_1), \cdots, \delta(t_n) \rangle \in \delta^+(P^n)$$
$$M \vDash^- P^n t_1 \cdots t_n \text{ iff } \langle \delta(t_1), \cdots, \delta(t_n) \rangle \in \delta^-(P^n)$$

A	$\neg A$
$+$	$-$
$\pm$	$\pm$
$-$	$+$

$\wedge$	$+$	$\pm$	$-$
$+$	$+$	$\pm$	$-$
$\pm$	$\pm$	$\pm$	$-$
$-$	$-$	$-$	$-$

$\vee$	$+$	$\pm$	$-$
$+$	$+$	$+$	$+$
$\pm$	$+$	$\pm$	$\pm$
$-$	$+$	$\pm$	$-$

$\rightarrow$[16]	$+$	$\pm$	$-$
$+$	$+$	$-$	$-$
$\pm$	$+$	$\pm$	$-$
$-$	$+$	$+$	$+$

$\leftrightarrow$[17]	$+$	$\pm$	$-$
$+$	$+$	$-$	$-$
$\pm$	$-$	$\pm$	$-$
$-$	$-$	$-$	$+$

For quantified sentences, we first augment the language with a constant, c_d for each $d \in D$ such that $\delta(c_d) = d$, then we evaluate quantified sentences by the following rule ("$A_x(c_d)$" is A with every free occurrence of x replaced by c_d):

[15] But [9, section 2.5] also says that the thing arbitrarily picked up by δ, though may not be an A in the actual world, should still be an A in some possible or impossible world. We will see some difficulty of this idea in what follows, however.

[16] This definition of conditional is not, however, the most favored definition of Priest. As he says ([9, p. 52]): "In fact, it is not too difficult to show that a natural-language conditional simply is not a truth function—however many truth values there are. ... However, to go into the complexity here would simply obscure the things that are important in the present matter. So we will just use a simple formal conditional connective which will provide for everything we need." It is not difficult to check that to satisfies Modus Ponens and Contraposition, but does not satisfy Conditional Introduction. Following Priest, I will concentrate only on this kind of conditionals.

[17] "$A \leftrightarrow B$" can actually be defined as "$(A \rightarrow B) \wedge (B \rightarrow A)$", and it is not difficult to check that $A \leftrightarrow B \vDash^+ C(A) \leftrightarrow C(B)$.

$M \models^+ \forall x_i A$ iff, for all $d \in D$, $M \models^+ A_x(c_d) = 1$;
$M \models^- \forall x_i A$ iff, for some $d \in D$, $M \models^- A_x(c_d)$;
$M \models^+ \exists x_i A$ iff, for some $d \in D$, $M \models^+ A_x(c_d) = 1$;
$M \models^- \exists x_i A$ iff, for all $d \in D$, $M \models^- A_x(c_d)$.

Finally, the important logical notion of validity is defined in the usual way: $\Sigma \models A$ iff for every M, if $M \models^+ B$ for all $B \in \Sigma$, then $M \models^+ A$.

As to the axioms of the theory **P**, Priest gives the following nine axioms (the primitive symbol "$<$" stands for the proper-part relation, while other notions are defined as such: $x \leq y$ (x is a prat of y) $=_{df}$ $x < y \vee x = y$, $x \circ y$ (x overlaps y) $=_{df}$ $\exists z(z \leq x \wedge z \leq y)$, and $x \bullet y$ (x is disjoint from y) $=_{df}$ $\neg\exists z(z \leq x \wedge z \leq y)$):

P1: $(x < y \wedge y < z) \to x < z$
P2: $x < y \to \neg y < x$
P2+: $\forall y(y \circ z_1 \leftrightarrow y \circ z_2) \to z_1 = z_2$
P3: $\exists x(v \bullet x \wedge \forall y(y \neq y \vee y \circ x \vee y \circ v))$
P3+: $Comp(v, x_1) \wedge Comp(v, x_2) \to x_1 = x_2$. (where "$Comp(v, x)$" can be intuitively read as "x is an absolute complement of v", and is short for "$v \bullet x \wedge \forall y(y \neq y \vee y \circ x \vee y \circ v)$")
P4n: $\exists z\forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge x \neq x))$ (or $\exists z\forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge \neg\exists y y = x))$.)
P4n+: $\forall x(x \neq x \to x \leq \mathbf{n})$. (where "**n**" is short for "$\sigma x x \neq x$" or, more fully, "$\varepsilon z\forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge x \neq x))$", which can be intuitively read as "the mereological sum of all those objects that are not identical with themselves".)
P4e: $\exists z\forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge x = x))$ (or $\exists z\forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge \exists y y = x)))$
P4e+: $\forall x(x = x \to x \leq \mathbf{e})$. (where "**e**" is short for "$\sigma x x = x$" or, more fully, "$\varepsilon z\forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge x = x))$", which can be intuitively read as "the mereological sum of all those objects that are identical with themselves".)

The first six axioms (and the last two too) are just axioms or theorems of classical mereology that proposed by, say, Simons (1987). ([10]) Though classical mereology is a controversial theory, the adoption of it as the basis for the theory **P** is only for the sake of convenience. Therefore, I will set these axioms aside in the following discussion and focus only on the rest part of the theory **P**, especially **P4n**.

Priest ([9, p. 35]) actually takes "$\forall y(y \circ z \leftrightarrow \exists x(A(x) \wedge y \circ x))$" to characterize the notion that "z is the mereological fusion of the objects in the set $\{x : A(x)\}$". So understood, **P4n** says that something is a mereological fusion of everything that is not identical with itself (while **P4e** says that something is a mereological fusion of everything that is identical with itself, i.e., a fusion of everything) and **P2+** guarantees that that mereological fusion is unique. Since it is unique, we can give it a name as "$\sigma xx \neq x$" or, more fully, "$\varepsilon z \forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge x \neq x))$", or more simply as "**n**" (similarly, we can give the fusion mentioned in P4e a name as "$\sigma xx = x$" or, more fully, "$\varepsilon z \forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge x = x))$", or more simply as "**e**"). Further, since nothing is not identical with itself, what **P4n** says is equivalent to that something, i.e., **n**, is a mereological fusion of nothing. **P4n** has a crucial position in Priest's theory **P**, because Priest uses it to prove that **n** is both an object and not an object. In order to see the beauty and the problems of Priest's proofs, let us now have a closer look at both his proof (1a) that **nothing** is an object and his proof (1b) that **nothing** is not an object.

The proof of (1a) that **nothing** is an object is simple: "$G\mathbf{n}$", i.e., "$\exists yy = \mathbf{n}$" ("Gx" is defined as "$\exists yy = x$" and to be read as "x is an object") follows from "$\mathbf{n} = \mathbf{n}$", which is a logical truth, by particular generalization. The proof of (1b) that **nothing** is not an object is a bit complicated but can be given as follows:

1.	$\exists z \forall y(y \circ z \leftrightarrow \exists x(y \circ x \wedge x \neq x))$	**P4n**
2.	$y \circ \mathbf{n} \leftrightarrow \exists x(y \circ x \wedge x \neq x)$	1+RCP[18]
3.	$\mathbf{n} \circ \mathbf{n} \leftrightarrow \exists z(z \leq \mathbf{n} \wedge z \leq \mathbf{n})$	def. of $\circ$
4.	$\mathbf{n} \leq \mathbf{n} \leftrightarrow (\mathbf{n} < \mathbf{n} \vee \mathbf{n} = \mathbf{n})$	def. of $\leq$
5.	$\neg \exists xx \neq x$	logical truth
6.	$\forall xx = x$	5, QN
7.	$x = x$	6, UI
8.	$\neg y \circ x \vee x = x$	7, Add
9.	$\neg(y \circ x \wedge x \neq x)$	8, DeM
10.	$\forall x \neg(y \circ x \wedge x \neq x)$	9, UG
11.	$\neg \exists x(y \circ x \wedge x \neq x)$	10, QN
12.	$\forall y \neg y \circ \mathbf{n}$	2, 11, $\leftrightarrow$E, UG
13.	$\neg \mathbf{n} \circ \mathbf{n}$	12, UI
14.	$\neg \exists z(z \leq \mathbf{n} \wedge z \leq \mathbf{n})$	3, 13, $\leftrightarrow$E
15.	$\neg \exists zz \leq \mathbf{n}$	14, Idem
16.	$\neg \mathbf{n} \leq \mathbf{n}$	15, QN, UI
17.	$\neg \mathbf{n} = \mathbf{n}$	4, 16, $\leftrightarrow$E, DeM, Simp.
18.	$x = \mathbf{n} \vee \neg x = \mathbf{n}$	logical truth
19.	$x = \mathbf{n}$	Assumption
20.	$\neg x = \mathbf{n}$	19, 17, LL
21.	$\neg x = \mathbf{n}$	Assumption
22.	$\neg x = \mathbf{n}$	21, Reit

[18] See footnote 7 for RCP.

23.	$\neg x = \mathbf{n}$	19, 19-20, 21-22, $\vee$E
24.	$\forall x \neg x = \mathbf{n}$	23, UG
25.	$\neg \exists x x = \mathbf{n}$	24, QN
26.	$\neg G\mathbf{n}$	def. of $G\mathbf{n}$

A beautiful proof, indeed![19] But I am not convinced for the reasons that I hinted in the previous section: (i) this proof presupposes, as required by the formal semantics that every indefinite description must be assigned a referent in a model by δ, the Meinongian doctrine that whenever "**nothing**" or "**n**" appears in a meaningful sentence or in a sensible thought, it is always about something; (ii) this proof appeals, as shown in step 2, to a questionable (as I argued in footnote 7) principle accepted by Priest, i.e., the Restricted Characterization Principle or RCP; and (iii) this proof also appeals to an extra dogmatic claim, i.e., **P4n** that there actually is at least one object satisfying the way (or ways) Priest characterizes **nothing**. I call this claim "dogmatic" because, as we can now clearly see, RCP together with the Meinongian doctrine that every (in)definite description refers is not enough to derive the conclusion (1b) that **nothing** is not an object; in order to prove (1b), one needs the further assumption, i.e., **P4n**, that there actually is at least one object satisfying the condition that characterizes **nothing**.

Yet, what if my reasons repeated in the previous paragraph are not good enough to persuade you to reject **P4n**? What if I am wrong about the objecthood and non-objecthood of **nothing**? In that case, is there still anything in **P** about which we can complain? I think the answer is still a "Yes!", and I will argue in what follows that, even if we accept every axiom of **P** for the sake of argument, **P** is still blamable for the reason that it may be too weak and therefore may need to be strengthened. Moreover, once we try to strengthen it in the desired directions, at least two problems will emerge: one involving Priest's claim that all noun-phrases refer, another making the problem of the paradise-of-**nothing**s that I mentioned in the previous section more visible. I now turn to these weakness of **P**.

The first weak point of **P** is that its language is too poor to make, *within the language*, an important[20] distinction between two kinds of objects in a model: those that are object-only, i.e., those that are only identical with themselves according to the model, such as you and me, and those that are not object-only, i.e., those that are not only identical with themselves but also not identical with themselves according to the model, such as **nothing**. More precisely, call an object o "object-only" in a model $M = \langle D, \delta, \Phi \rangle$ iff it is not both in $\delta^+_M(=)$ and in $\delta^-_M(=)$, or, equivalently, iff it is not

[19] [9, chapter 6] also proves beautifully that **e** and **n** are absolute complements of each other, i.e., $\mathbf{P} \vDash^+ \mathbf{e} = \varepsilon x(Comp(\mathbf{n}, x))$ and $\mathbf{P} \vDash^+ \mathbf{n} = \varepsilon x(Comp(\mathbf{e}, x))$, but I will ignore this proof in what follows.

[20] It is important because we want to be able to express the following sentence in the language: while **everything** contains at least all object-only objects as parts, **nothing** contains no such object-only object.

both true and false in M that $\exists yy = o$. Call an object "not object-only" in a model $M = \langle D, \delta, \Phi \rangle$ iff it is otherwise, i.e., not object-only. For example, in the following model $M_1 = \langle D_1, \delta_1, \Phi_1 \rangle$: [21]

$D_1 = \{a, b, \top, \bot\}$
δ_1 is such that:
$\delta_1^+(<) = \{\langle a, \top\rangle, \langle b, \top\rangle, \langle \bot, \top\rangle\}$
$\delta_1^-(<) = D_1^2 - \{\langle a, \top\rangle, \langle b, \top\rangle\}$
$\delta_1^+(=) = \{\langle a, a\rangle, \langle b, b\rangle, \langle \top, \top\rangle, \langle \bot, \bot\rangle\}$
$\delta_1^-(=) = D_1^2 - \{\langle a, a\rangle, \langle b, b\rangle, \langle \top, \top\rangle\}$
Φ_1 is an arbitrary function that satisfies the requirement that, for any set $X \subseteq D, Y \subseteq D$ and $X \neq \emptyset$, $\Phi_1(\langle X, Y\rangle) \in X$.

$\top$, a and b are object-only in M_1 but $\bot$ is not object-only in M_1. One can easily check that every axiom of Priest's theory **P** is true in M_1.

Unfortunately, the property of x's being object-only can't be expressed within the language of **P** by "$x = x \wedge \neg x \neq x$" or "$\exists yy = x \wedge \neg \exists yy \neq x$", for **nothing** satisfies both predicates in any model M, including M_1, as well. As a matter of fact, there simply is, as far as I can see, no way to express the predicate "being object-only" in the language of **P**. So let us try to solve this problem by adding a new logical operator or logical constant "$\bar{\tilde{\text{O}}}$" to the language which is supposed to be true of all object-only objects and false of other objects. More precisely, in each model M, the predicate "$\bar{\tilde{\text{O}}}$" is supposed to be interpreted by δ as $\langle \{o \mid \langle o, o\rangle \notin \delta^-(=)\}, D - \{o \mid \langle o, o\rangle \notin \delta^-(=)\}\rangle$. When interpreted in this way, $\top$, a and b in M_1 are in $\delta_1^+(\bar{\tilde{\text{O}}})$ but $\bot$ is not. We can even change **P4n** to **P4n*** $\exists z \forall y(\neg \bar{\tilde{\text{O}}} z \wedge (y \circ z \leftrightarrow \exists x(y \circ x \wedge x \neq x)))$ and/or change **P4e** to **P4e*** $\exists z \forall y(\bar{\tilde{\text{O}}} z \wedge (y \circ z \leftrightarrow \exists x(y \circ x \wedge x = x)))$ and keep the modified version continue to be satisfied by the same models. However, if we solve the problem about the expressive power of the language of **P** in this way, we will have a noun phrase in our language, i.e., "$\varepsilon x(\bar{\tilde{\text{O}}} x \wedge \neg \bar{\tilde{\text{O}}})$", which either fails to refer to anything in any model or can only refer to something whose characterization condition cannot be satisfied in any world at all. Either way, Priest has to withdraw a part of his claim that every noun phrase refers to something that satisfied the characterization condition either in the actual world or in some other world.

However, even if we solve the first problem in some desired way, there may still be a second problem about **P**: no matter whether Priest's theory **P** will or will not allow the possibility that **nothing** has other non-objects-only objects as its proper parts, it will face some problems or others that I mentioned in the end of the last section. Let me explain this second problem a bit further in details here. As to the possibility that **P** may allow that **nothing** has other non-object-only objects, such as the fusion of the overlapped parts of my body and Priest's or **nothing**$_{W,P}$, as its

[21] This is also the model given in [9, section 6.9].

proper parts, I used to think, but then realized afterwards that I was wrong, that the following model $M_2 = \langle D_2, \delta_2, \Phi_2 \rangle$, or models similar to M_2, is enough to show that this possibility is a real possibility (I represent M_2 by Diagram 1, in which the dashed arrow indicates that both the proper-part relation and its negation hold between the two objects involved):[22]

$D_2 = \{a, b, c, d, a+b+c, a+b+d, a+c+d, b+c+d, \top, \bot\}$
δ_2 is such that:

$$\begin{aligned}\delta_2^+(<) = \{&\langle a, a+b+c\rangle, \langle a, a+b+d\rangle, \langle a, a+c+d\rangle,\\ &\langle b, a+b+c\rangle, \langle b, a+b+d\rangle, \langle b, b+c+d\rangle,\\ &\langle c, a+b+c\rangle, \langle c, a+c+d\rangle, \langle c, b+c+d\rangle,\\ &\langle d, a+b+d\rangle, \langle d, a+c+d\rangle, \langle d, b+c+d\rangle,\\ &\langle a, \top\rangle, \langle b, \top\rangle, \langle c, \top\rangle, \langle d, \top\rangle,\\ &\langle c, \bot\rangle, \langle d, \bot\rangle, \langle \bot, \top\rangle\}\end{aligned}$$

$$\delta_2^-(<) = (D_2^2 - \delta_2^+(<)) \cup \{\langle c, \bot\rangle, \langle d, \bot\rangle, \langle \bot, \top\rangle\}$$

$$\delta_2^+(=) = \{\langle o, o\rangle \mid o \in D\}, \delta_2^-(=) = (D_3^2 - \delta_2^+(=)) \cup \{\langle \bot, \bot\rangle, \langle c, c\rangle, \langle d, d\rangle\}$$

Φ_2 is an arbitrary function that satisfies the requirement that, for any set $X \subseteq D$, $Y \subseteq D$ and $X \neq \emptyset$, $\Phi_2(\langle X, Y\rangle) \in X$.

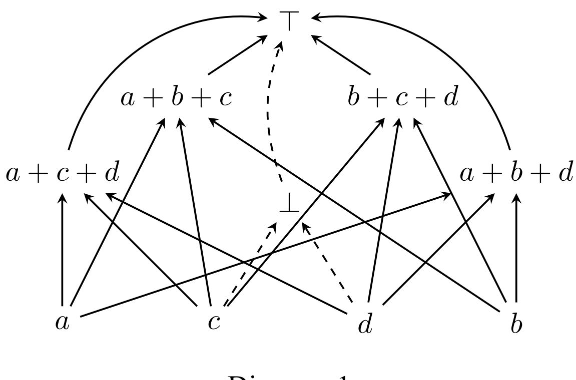

Diagram 1

In models M_2, **nothing** $\bot$ has two non-object-only objects, c and d, as its proper parts, and all other objects are object-only. If every axiom of Priest's theory **P** were true in M_2, models like M_2 would be enough to show that the paradise of **nothing**s that I mentioned in the previous section is a genuine worry for Priest's formal theory of **nothing**. And one can easily check that it is indeed the case that almost every axiom of Priest theory **P** is true in M_2!

Alas, not all, though almost all, axioms of Priest theory **P** are true in M_2, and the problem is that **P3+** is simply not true in M_2. Intuitively, **P3+** says that each object

[22] Though it turns out that I was wrong, it is still inspiring to see why it won't work.

v has a unique absolute complement x in any model of **P**. As one can easily check, while what **P3+** says is true for a, b, $b+c+d$ and $a+c+d$ in M_2, it is nevertheless not true for other objects in that model. For example, **nothing** in M_2, i.e., $\bot$, has three absolute complements in M_2: $a+b+d$, $a+b+c$ and $\top$, which are pair-wise non-identical. To be sure, the failure of M_2 to show that **P** may allow **nothing** to have other non-object-only objects as its proper parts does not, by itself, show that no such model can ever exist. Yet I have to confess that I have tried several others and found them all fail, for the same problem as that of M_2, to show that this possibility is a genuine one. Thus, my best guess is that, due to the existence of axiom **P3+** in **P**, Priest's theory **P** simply forbits the existence of such a model, and my best hope is that I will come up soon in the near future with a proof of this guess.[23] Yet, even if the

[23] Actually, I think that the following sketched model-theoretical proof may work as such a proof if spelt out fully, though I am not one hundred percent sure about its correctness due to the "more tedious" part below. Let M be any model of **P** in which the provable result of **P** that $\delta_M(\mathbf{n})$ and $\delta_M(\mathbf{e})$ are mutual absolute complements of each other are true in M, i.e., $M \vDash^+ \mathbf{e} = \varepsilon x(Comp(\mathbf{n}, x))$ and $M \vDash^+ \mathbf{n} = \varepsilon x(Comp(\mathbf{e}, x))$. For the purpose of reduction, let us suppose that $\delta_M(\mathbf{n})$ has at least one extra non-object-only object o as its proper part, i.e., $\delta_M(\mathbf{n}) \neq o$, $\langle o, o\rangle \in \delta_M^-(=)$ and $\langle o, \delta_M(\mathbf{n})\rangle \in \delta_M^+(=)$. Since M is a model of **P** that includes **P4e+** and $M \vDash^+ o = o$, o is also a proper part of $\delta_M(\mathbf{e})$, i.e., $\langle o, \delta_M(\mathbf{e})\rangle \in \delta_M^+(<)$. So o is a common part of $\delta_M(\mathbf{n})$ and $\delta_M(\mathbf{e})$ by the definition of "part", i.e., $\langle o, \delta_M(\mathbf{e})\rangle \in \delta_M^+(\leq)$ and $\langle o, \delta_M(\mathbf{n})\rangle \in \delta_M^+(\leq)$ and hence $M \vDash^+ k_o \leq n \wedge k_o \leq e$. Yet, o is not a part of itself, i.e., $\langle o, o\rangle \notin \delta_M^+(\leq)$, since o is both not a subpart of itself by **P2** and not identical with itself by our assumption. Therefore, o is not a common part of o and $\delta_M(\mathbf{n})$ nor a common part of o and $\delta_M(\mathbf{e})$ (and provably not a common part of $\delta_M(\mathbf{n})$ and $\delta_M(\mathbf{e})$ either, but this is not important in what follows). Now, either (1) o has no further objects in M as its proper subparts, or (2) o has at least one object in M as its proper part. In case (1), since o has no other parts than itself and its only part is not a common part of o and $\delta_M(\mathbf{e})$, it follows that $M \vDash k_o \bullet \mathbf{e}$. Further, since $M \vDash^+ \forall y y \circ e$, it follows that $M \vDash^+ \forall y(y \neq y \vee y \circ k_o \vee y \circ e)$. Therefore, $\delta_M(\mathbf{e})$ and o are absolute complements of each other in M, i.e., $M \vDash^+ k_o = \varepsilon x(Comp(\mathbf{e}, x))$ and $M \vDash^+ \mathbf{e} = \varepsilon x(Comp(k_o, x))$. However, o is different from $\delta_M(\mathbf{n})$ in M; therefore, $\delta_M(\mathbf{e})$ will have at least two absolute complements in M, contradicting our assumption that M is a model of **P** that includes **P3+**. Case (2) can also be shown, though more tedious, to be impossible. Case (2) has two sub-cases: (2a) all proper subparts of o are not object-only, and (2b) at least some proper part of o is object-only. In case (2a), it can be shown, in the same way as that I have shown for o, that all these proper subparts of o are not common parts of o and **e**, and therefore that each of them and $\delta_M(\mathbf{e})$ are mutual absolute complements. Since each of these subparts of o is different from **n**, $\delta_M(\mathbf{e})$ will have, again, at least two absolute complements in M, contradicting our assumption that M is a model of **P** that includes **P3+**. In case (2b), any object-only subpart o' of o will have a unique absolute complement $o*$ in M by **P3** and **P3+**. Now, since $M \vDash^+ \mathbf{e} = \varepsilon x(Comp(\mathbf{n}, x))$, it follows that $M \vDash^+ \mathbf{e} \bullet \mathbf{n}$; and since $o*$ is a part of **e**, it further follows that $M \vDash^+ k_{o*} \bullet \mathbf{n}$. Furthermore, since $o*$ is the absolute completement of o' and o' is a proper part of $\delta_M(\mathbf{n})$, it follows that $M \vDash^+ \forall y(y \neq y \vee y \circ k_{o'} \vee y \circ k_{o*})$ and $M \vDash^+ \forall y(y \neq y \vee y \circ \mathbf{n} \vee y \circ k_{o*})$. So, due to the fact that $M \vDash^+ k_{o*} \bullet \mathbf{n}$ and the fact that $M \vDash^+ \forall y(y \neq y \vee y \circ \mathbf{n} \vee y \circ k_{o*})$, $\delta_M(\mathbf{n})$ and the absolute complement of o', i.e., $o*$, are also absolute complements of each other, i.e., $M \vDash^+ \varepsilon x(Comp(\mathbf{n}, x)) = k_{o*}$. Since $o*$ is also provably different from $\delta_M(\mathbf{e})$, $\delta_M(\mathbf{n})$ will then have at least two absolute complements, $\delta_M(\mathbf{e})$ and $o*$, that are not identical, again contradicting our assumption that M is a model of **P** that includes **P3+**. Since both (1) and (2) lead to a result contradicting our assumption, the assumption simply can't hold at all for any model of **P**. My best hope is that this

non-existence of a model of **P** that allows **nothing** to have non-object-only objects as its parts can be proved in the future, this is still not good news for Priest's theory **P**. For one thing, **P** would then violate our intuitions that those **nothing**s in the paradise are pair-wise non-identical.[24] For another, Priest can no more claim that everything grounds for its being an object on its being different from **nothing** *but not vice versa*: for, if there can only be one non-object-only object, namely, **nothing**, in a model of **P**, then it will follow that, for any object o in that model, if it were not an object, then it would be identical with **nothing**. It further follows by the transitivity of grounding relation that everything will ground its being on the being of any other thing in the model.

As a conclusion, let me repeat the dilemma that I mentioned at the end of the previous section: either (a) we will be forced by the axioms of **P** to identify all **nothing**s in the paradise as one and the same object so to exclude models like M_2, but are no more able to say that everything depends for its being on its being different from **nothing** *but not vice versa*, or (b) we will not be forced by the axioms of **P** to identify all **nothing**s in the paradise as one and the same object and thus have an inflated ontology. Furthermore, in either case, so long as the grounding relation is a transitive relation, it seems to follow that everything is grounded on everything in a sense, as witnessed by the fact that **nothing**$_{W,P}$ obviously depends for its being on the being of my body and Priest's, while everything else depends also for its being on their being different from **nothing**$_{W,P}$.

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proof will be proved rigorously in the future.

[24] As I mentioned in the previous section, this move is somewhat counterintuitive. Consider the fusion of the overlapped parts of my body and Priest's or **nothing**$_{W,P}$. With some contingent premise, it can be proved that **nothing**$_{W,P}$ both is and is not an object. Intuitively, this object differs from **nothing** in that **nothing** is necessarily a non-object, but **nothing**$_{W,P}$ is not.

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对普里斯特近期无的理论的仔细检视

王文方

摘　要

普里斯特近期在数篇文章及一本即将出版的书籍手稿中提出一个具有影响力的观点，他认为许多哲学家所说的无其实是具有多个矛盾特性的事物。本文的焦点限定在以下三个普里斯特对无的看法之上：（1）无是一个事物，（2）无也不是一个事物，以及（3）所有事物的存有都奠基在它不同于无这个事实之上。本文试图从哲学及形式证明的双重角度去论证普里斯特对上述三个看法所给出的哲学辩护在说服力上并不充足。本文特别论证说，普里斯特有关于无的形式化理论会陷入一个两难的困境：或者该理论会允许一个充满了类似于无的矛盾事物所组成的无之天堂，并因而拥抱一个过于膨胀的本体论，或者该理论会将该天堂中的所有矛盾的无都等同于同一个无，并因而使得每个事物在某个意义上都将其存有奠基于任何一个事物之上。

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