Everything for Nothing

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ABSTRACT: In this paper I argue that the acceptance of an absolutely unrestricted quantification implies the existence of an absolutely empty possible world. This result could be relevant because David Lewis both admits an absolutely unrestricted quantification (for example in *Parts of Classes*) and rejects the existence of an absolutely empty possible world (in *On the Plurality of Worlds*). In order to vindicate my thesis, I propose two strategies. The first is based on the assumption that the phrase 'nothing' cannot be always reduced to a quantifier phrase, as Graham Priest and Alex Oliver with Timothy Smiley have argued. This strategy consists in a paraphrase of the notion of everything that constrains us to admit an empty possible world. The second strategy mainly consists in the use of an "idealistic" principle (say «every determination is negation») and its consequences.

KEYWORDS: Absolutely unrestricted quantification – empty possible world – everything – nothing – possible worlds.

1.

In this paper I argue that the acceptance of an absolutely unrestricted quantification implies the existence of an absolutely empty possible world.[1] This result could be relevant because David Lewis both admits an abso-

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[1]   In this paper I will use the phrases 'absolutely empty world' or 'empty world', without any distinction, for referring to a world that represents no entities at all.

lutely unrestricted quantification (for example in Lewis 1991) and rejects the existence of an absolutely empty possible world (in Lewis 1986). In Lewis (1986), an empty world is not a possible world, since any world is defined as a maximal mereological sum of spatiotemporally interrelated things.[2]

2.

As Bradley affirms, metaphysics is "the effort to comprehend the universe, not simply piecemeal or by fragments, but somehow as a whole" (Rayo – Uzquiano 2006, 203). However, after the contemporary developments of logic and mathematics, the idea of an all-inclusive whole has become very puzzling. Indeed, the idea of an all-encompassing totality is based on the use of the schema of Naïve Comprehension:

(1) $\exists y \forall x(x \in y \leftrightarrow \phi(x))$ where $\phi(x)$ is any formula not containing 'y' free

In order to express the notion of totality, one can use the formula of self-identity, since *everything* is self-identical:

(2) $T = \{x \mid x = x\}$

It is well-known that (1) gives rise to a contradiction, since – as Rayo – Uzquiano (2006, 4) recall – (1) has an instance:

(3) $\exists y \forall x(x \in y \leftrightarrow x \notin x)$

Therefore

(4) $\forall x(x \in r \leftrightarrow x \notin x)$
(5) $r \in r \leftrightarrow r \notin r$

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[2]   Cf. Lewis (1986, 73): "If a world is a maximal mereological sum of spatiotemporally interrelated things, that makes no provision for an absolutely empty world. A world is not like a bottle that might hold no beer. The world *is* the totality of things it contains. ... There can be nothing much: just some homogeneous unoccupied spacetime, or maybe only one single point of it. But nothing much is still something, and there isn't any world where there's nothing at all."

A common way for overcoming this problem is the principle of Separation:

(6) $\forall z \exists y \forall x (x \in y \leftrightarrow \phi(x) \wedge x \in z)$ where $\phi(x)$ is any formula not containing 'y' free

But in this way one should give up to the notion of an all-encompassing whole, by considering just restricted totalities, *contra* the genuine metaphysical aim.

Anyway, as Rayo – Uzquiano (2006) recall, one should distinguish between the following sentences:

(AUQ) It is possible to quantify over everything, i.e. it is possible an absolutely unrestricted quantification;
(T)   There is an entity that is an all-encompassing totality.

(AUQ) implies (T) if one assumes the so-called "All-in-one principle", according to which "the objects in a domain of discourse make up a set or some set-like object" (Rayo – Uzquiano 2006, 6). The passage from (AUQ) to (T), by means of the All-in-one principle, generates a contradiction, since "the lesson of Russell's paradox is that there is no set (or set-like object) with all objects as members" (Rayo – Uzquiano 2006, 6). For my purpose, I just assume (AUQ), but I will not endorse the "All-in-one principle", therefore I will not commit myself to (T), but "only" to (AUQ).[3]

3.

So, let us assume that I can quantify over absolutely everything, by stating – for example – that everything, i.e. every object,[4] is self-identical. Let us call D the all-inclusive domain of discourse.[5] Consider the following sentence:

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[3]   There are good arguments for AUQ. For an overview see Rayo – Uzquiano (2006). Anyway, the aim of this paper is just showing that the rejection of the empty world is not compatible with the use of absolutely unrestricted quantification.

[4]   The term 'object' also ranges over the non-existent objects, if one wanted to admit them.

[5]   I use the term 'domain' by adopting the following advice of Rayo – Uzquiano (2006, 2): "[...] when we speak of a domain consisting of certain objects, we shall not assume

(E)   I am quantifying over D

Since I am really quantifying over D iff I am quantifying over *all* objects, then (E) becomes

(E*)   I am quantifying over D iff I am quantifying over a domain beyond which there are no objects at all

Therefore

(E**)   I am quantifying over D iff I am quantifying over a domain of discourse beyond which there is the absence of all objects.

(E**) seems *prima facie* to presume the introduction of a strange object – identified as exactly the absence of all objects – that is paradoxically beyond the domain of all objects. The paraphrase of (E*) as (E**) seems to be afflicted by the naïve misunderstanding of 'nothing' as quantifier phrase with 'nothing' as a substantive, so that <I am quantifying over a domain of discourse beyond which there are no objects at all> would become <I am quantifying over a domain of discourse beyond which there is *nothing*> and the latter sentence – from the naïve point of view – would seem problematic in so far as it would state that there must be the object Nothing beyond the domain of all objects. But – Carnap probably would say - it is a problem for a schoolchild!

In the history of philosophy the phrase 'nothing' was often used as a noun that refers to a putative puzzling "thing", although in the so-called analytic philosophy this use has been considered wrong or senseless at least from Carnap (1931) that strongly proposed to admit the use of 'nothing' just as quantifier phrase.[6] Anyway, lately within analytic philosophy Priest

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that there must be a set (or set-like object) of which all and only the objects in question are members; the only requirement we take for granted is that there be such objects."

[6]   At least from Parmenides, 'nothing' was used as a name. Plato notoriously tried to solve Parmenidean puzzle of nothingness by distinguishing 'nothing' as absolute non-being and 'nothing' as different-being. Generally we can find three notions of nothingness, as Yao (2010, 79) exactly recalls: "Surveying the traditional classifications of nothing or nonbeing in East and West have led me to develop a typology of nothing that consists of three main types: 1) privative nothing, commonly known as absence; 2) negative nothing, the altogether not or absolute nothing; and finally 3) originally nothing, the nothing that is equivalent to being". In this paper I consider the first type of no-

(2002; 2014) has argued that 'nothing' as 'the absence of every thing' is a noun phrase and he has shown that such a noun phrase refers to an object:

> 'No' words and phrases are frequently used as quantifier phrases. When Alice says that she can see no one on the road, she means that for no person, x, can she see x on the road. But 'nothing' can also be a noun phrase. We may say that Hegel and Heidegger both wrote about nothing. Here, the word is not a quantifier phrase. This does not mean that for no x did Hegel and Heidegger write about x. It is a noun-phrase. We can say that they said different things about *it*. *It* is also that out of which the Abrahamic God is supposed to have created the world. It is nothing (noun phrase) that will concern us now. And by nothing, I mean *absolutely nothing*: the absence of every thing. To avoid confusion with the quantifier, I will write this in boldface, thus: **nothing**. (Priest 2014, 6)

Also Oliver – Smiley (2013) have argued that there are sentences where 'nothing' cannot be reduced to a quantifier phrase, but – unlike Priest – they propose to introduce the empty term *zilch* for accounting for 'nothing' when it is not used as a quantifier phrase. Zilch would be an empty term ("empty as a matter of logical necessity"; see Oliver – Smiley 2013, 602) that denotes the non-self-identical thing, i.e. it does not denote anything, since Oliver and Smiley certainly assume that everything is self-identical. Anyway, *also the non-self-identical thing is de facto the absence of every object*, therefore I will focus on such a notion.[7] In this paper I assume Priest and

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thingness, namely the absence of everything, since the second type (what Kant calls "nihil negativum", e.g. a round-square) seems to deal with the topic of impossible or contradictory objects, rather than the topic of absolute nothingness, and the third type – say "nihil originarium" – can be considered as the dimension from which each entity appears as in – broadly speaking – Heidegger and the Kyoto School. Anyway these topics are not the aim of the present paper. Just a brief recall about Carnap's criticism against Heidegger's use of 'nothing': According to Carnap (1931), a sentence like "Nothing is outside" should be paraphrased as follows: "There is nothing (does not exist anything) which is outside", i.e.: $\sim(\exists x).Ou(x)$.

[7]   In Simionato (2014) I argue as follows: since every relevant account for *nothing* – implicitly (as Oliver – Smiley 2013) or explicitly (as Priest 2002; 2014) – appeals to the notion of absence of every thing; and since – as I am going to show – such a notion cannot be separated from the empty possible world, i.e. from the entity that exactly

Oliver's and Smiley's premise according to which we need to account for nothing also in a different way from the quantifier phrase's strategy, when nothing explicitly or implicitly means the absence of every thing. But I assume that a good way for accounting for nothing – when it is not a quantifier phrase – is to consider it as a noun phrase that refers to an absolutely empty possible world.[8] In Simionato (2014) I have argued for the reasons of this choice, therefore I will not deal with this topic in this paper, even if I need to recall some of the above-mentioned reasons in order to make this paper autonomously understandable.

Let us return to the naïve notion of nothingness as absence of every entity. I propose to consider nothingness simply as the maximal (all-encompassing) consistent *situation* according to which there are no objects at all. Since *a maximal consistent situation according to which things could be* is – broadly speaking – a (possible) world, the maximal situation according to which there are no entities at all is what is called empty world, i.e. a world that represents the absence of all objects.[9] So nothingness is an entity – i.e. a possible world – that *represents* the absence of all objects. One should note that the absence of all objects cannot be – say – *separated* from the empty world, because the absence of all objects is represented by the maximal situation (i.e. a (possible) world) according to which there are no objects at all. But this thesis does not mean that the absence of all objects is not different from the empty world itself: as in each world, one can distinguish the world as such from its "content", i.e. from what it represents. There is a relevant difference between accounting for nothingness by means of the empty world and Priest's account. The latter identifies the absolute absence of everything with a thing, so that such a thing turns out to be a contradictory object: "it both is and is not an object; it both is and is not something" (Priest 2014, 7). Instead in my paraphrase I do not identify the ab-

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represents the maximal consistent situation according to which there are no objects at all; then every relevant account for *nothing* – implicitly or explicitly – appeals to the notion of empty world.

[8]   Hereinafter I will use 'nothingness' for referring to the noun and 'nothing' for referring to the quantifier phrase (except for the use of Priest's **nothing**, as introduced above).

[9]   In this paper I will not deal with the question of which account of possible world one should adopt in order to introduce an absolutely empty world. Certainly, Lewis's account is not compatible with it (and this is the reason why his use of absolutely unrestricted quantification could be problematic, from the point of view of this paper).

sence of everything with a (contradictory) object. Rather I propose to use 'nothingness' to refer to a (non-contradictory) entity that is the empty possible world and this entity *represents* the absence of everything. Therefore there is no contradictory identification between an object and the absence of all objects, for the empty world as world is not its "content" and the absence of everything is not the empty world itself.[10]

Let us reconsider (E**). Let us assume – following Priest – that nothingness is (also) a noun phrase and it must refer to something; let us consider Oliver – Smiley (2013)'s empty term *zilch* inadequate since it refers to no objects at all.[11] We have two options:

(*i*)   the absence of all objects is a contradictory object;
(*ii*)   the absence of all objects is the "content" of an absolutely empty possible world, i.e. what such a world represents.

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[10]   The account for nothingness as empty world is also different from the mereological account proposed by Priest (2014, 7), according to which "[nothingness] is the fusion of the empty set... **Nothing** is what you get when you fuse no things. There is nothing in the empty set, so **nothing** is absolute absence: the absence of all objects, as one would expect." And I also suppose that for Priest (2014) an empty world would contain the contradictory object **nothing**. In my proposal, the phrase 'nothingness' refers both to the empty world and to its content, for the latter – namely the absence of everything, i.e. the pre-theoretical notion of nothingness – is represented by the former, and the empty world is that world, i.e. *empty*, because it represents the absence of everything.

[11]   For example, consider the following sentence (I recall the example from Priest 2002, 241):

(*) "God brought the universe into being out of nothing"

If the term 'nothing' meant 'zilch', then there would not be any object out of which God created the universe; therefore the sentence (*) could not be distinguished from its (partial) negation, such as

(**) "The universe eternally exists"

by means of the "zilch strategy". As Priest (2002, 241) writes: "This means that God arranged for nothingness to give way to the universe. In (*) 'nothing' cannot be parsed as a quantifier. If we do so, we obtain: For no x did God bring the universe into existence out of x. And whilst no doubt this is true if God brought the universe into existence out of nothing, it is equally true if the universe has existed for all time: if it was not brought into existence at a time, it was not brought into existence *out of* anything. And the eternal existence of the universe is, in part, what (*) is denying."

In order to avoid a commitment to dialetheism and contradictory objects, I prefer option (*ii*) rather than option (*i*) – that is Priest's strategy (again, for more reasons for this choice, see Simionato 2014).

Indeed, if one chose (*i*), one should admit that there is an object beyond the domain of all objects (this could not be a problem for a dialetheist, but for a non-dialetheist this strategy would constrain to admit two contradictions: the contradictory object **nothing** and the contradictory domain D that includes all objects and it does not include all objects. But I am inclined to think that we can account for nothingness without any commitment to dialetheism). Instead, by means of strategy (*ii*), one can state that there is something – i.e. the absolutely empty possible world – that is included in the all-inclusive domain of discourse and such thing represents the absence of all objects, being an *absolutely empty* world. In this way, 'nothingness' is a noun phrase that refers to something – as well as Priest desires; but the introduction of this "something" does not imply the contradictory treatment of the absence of *all* objects as an object,[12] because it is just the empty world. The empty world *as world* is an entity, but its "content" – i.e. what it represents – is not any entity at all, therefore this notion does not undermine the genuine notion of the absence of *all* things. So, by means of (*ii*), one can both avoid the entification of the total absence and have the reference to a thing.

Therefore, I propose to replace (E**) with the following:

(E***) If I am quantifying over D, then I am quantifying over a domain of discourse beyond which there are no objects at all and this absence of all objects is represented by an absolutely empty possible world, included in the domain itself.

So, if one accepts the absolutely unrestricted quantification, then one should accept the existence of an absolutely empty possible world.[13] Indeed, since the notion of *everything* is strictly linked to the absence of every thing, given the paraphrase (E*) or (E**), without an empty world one cannot re-

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[12]   As Priest himself notes, holding that the absence of all objects is an object generates a contradictory object. Of course, contradictions are not a problem for Priest, but they are for me.

[13]   In fact it seems reasonable that an empty world could not be an impossible world, because it cannot realize explicit contradictions or – broadly speaking – non-standard logical situations, since it does not represent anything at all.

fer to the absence of every thing since there would not be any entity at all over which one can quantify, whereas by means of the empty world one can quantify just over it and at the same time one can refer to the absence of everything (i.e. the "content" of the empty world).[14]

One should note that my strategy also works without passing through (E**); since (E*) states that I am quantifying over D iff I am quantifying over a domain beyond which there are no objects at all, (E*) is exactly introducing the maximal consistent situation according to which there are no entities at all, i.e. an absolutely empty world. Therefore one can directly paraphrase (E*) as (E***).

4.

At this point I am going to propose an alternative strategy for showing that the use of an absolutely unrestricted quantification implies the acceptance of the absolutely empty world. At this end, I introduce the following principle:

(ODN) Every entity is determinate only in virtue of a difference with other entities (every determination is negation, *omnis determinatio est negatio*)

I would call this strategy: "idealistic way", since (ODN) is a typical principle that occurs in Fichte's and Hegel's metaphysics.[15] One should also note that this approach to negation derives from Aristotle, as Redding (2010) notes:

Such a method invoking "determinate negation" is often described as deriving from Spinoza's claim that "all determination is negation", but it can be just as readily seen as a consequence of Hegel's use of Aristotle's term logic. In term logics, negation is understood as a relation existing primarily between *terms* of the same type: a colour concept such as "red,"

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[14]   Quantifying over the empty world is not contradictory since it – as *world* – belongs to the domain of absolutely every thing.

[15]   See for example Inwood (1992, 78): "Hegel endorses Spinoza's claim that 'determination is negation', that is, that a thing or concept is determinate only in virtue of a contrast with other things o concepts, which are determined in a way that it is not". See also Melamed (2013).

for example, will be understood as meaningful in as much as it stands in opposition to an array of contrary colour terms such as "blue" "green", and so on. In contrast, in logics which take the *proposition* as the fundamental semantic unit (such as the classical predicate calculus deriving from Frege and accepted by most analytic philosophers), negation is typically regarded as applying primarily to whole propositions rather than to sub-sentential units. (Redding 2010)

I will show that from the set of two premises as (AUQ) and (ODN) one can *prima facie* derive a contradiction; then I will introduce the existence of an absolutely empty possible world in order to make consistent the above-mentioned set.

By (ODN) let us derive the following:

(M1) Entities that fall under the same concept all differ from same common entities, i.e. for each domain of x, for all x there is a y such that $y \neq x$

It is already clear that we will obtain a contradiction, since (M1) is not consistent with (AUQ).[16] Anyway, I will show how the introduction of an empty possible world allows us to avoid the contradiction. Let us consider again the domain D.

By (AUQ) and (M1) we obtain:

(M2) Each object of D is different from something – say k

Since k is a thing or entity, it belongs to D. Therefore, by (M2):

(M3) k is not k

(because k, being an entity of D, is different from k, since *every* entity of D is different from k) By the identity principle:

(M4) k is k

Therefore, from conjunction of (M3) and (M4), we obtain the following contradiction

(C) k is not k and k is k

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16   In fact, (M1) is equivalent to saying that every quantification is restricted.

(Certainly, (M3) is also a contradiction.)

I think this puzzle can be solved by introducing the existence of an absolutely empty world. As I said before, such a world is an entity that represents the absence of every entity. Let us replace (M2) with (M2*) in order to avoid the rise of the contradictions (M3) and (C):

> (M2*) Each object of D is different from the absence of every entity and this absence is represented by an entity, i.e. an absolutely empty possible world

Therefore each entity is different from what the absolutely empty possible world represents. In this way, one can state that each entity of D is different from the absolute absence, but – as in the strategy that I proposed in the previous section – one does not need to quantify over this absence, since one just needs to quantify over the empty possible world that – in turn – represents the absolute absence.

Since the introduction of an empty world allows us to make consistent a set of two very reasonable premises, it is more reasonable to admit it rather than to reject it.

However, one could object that the empty world must be different from itself, since *every* entity (including the empty world) of D is different from the absence of every entity. However I would reply that it is opportune to distinguish between the empty world and the absence of everything. The empty world is not the absence of everything, rather it is an entity that represents the absence of everything. Therefore my strategy is not undermined by a situation like (M3), because – by means of the empty world – one can state that the empty world is not the absence of everything (as well as each world is not its "content", i.e. what it is represented).

Finally, one could object that there is a paradigmatic counterexample to (ODN). If one adopted a sort of "existential monism", according to which there is exactly one *concretum* (say e), ODN would fail in that case because the only one entity would not be different from anything. Anyway, in this case one should admit that a sentence like "There is only one entity e" should be understood as "There is only one entity e iff *there are no entities at all* besides e". Similarly to the passage from (E*) to (E***), one should admit that "If there is only one entity e, then it is different from the 'content' of the empty possible world, i.e. from what such a world represents (the absence of every entity)". Therefore (ODN) would not fail because

e would be different from the absence of every thing that is represented by an empty possible world.[17]

5.

In this paper I have argued that the use of an absolutely unrestricted quantification implies the acceptance of an absolutely empty possible world. In order to show the reason why (AUQ) implies the existence of an absolutely empty possible world, I have proposed two strategies. The first is based on the assumption that the phrase 'nothing' cannot be always reduced to a quantifier phrase, as Priest (2002; 2014) and Oliver – Smiley (2013) have argued. This strategy consists in a paraphrase of the notion of *everything* that constrains us to admit an empty possible world. The second strategy mainly consists in the use of the idealistic principle (ODN) and its consequences. Therefore my paper shows the *incompatibility* between the acceptance of an absolutely unrestricted quantification and the rejection of the existence of an absolutely empty possible world.[18]

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[17] Maybe one could object that the existence of an empty possible world would be inconsistent with a sort of existential monism, if such a world did not coincide with *e*. I would reply that this is a problem for the existential monism, rather than a problem for (ODN): how could the existential monist affirm the existence of exactly one entity, without referring to the absence of every thing besides such an entity? If the existential monist refers to the absence of every thing – as she should do – then she needs to introduce the empty world (if we assume that the best paraphrase for *nothing* is the empty world's account). From this point of view, the existential monism is maybe an inconsistent thesis; but – again – this seems to be a problem for existential monism, rather than for (ODN).

[18] Thanks to Matteo Plebani and an anonymous referee for *Organon F* for comments. Thanks also go to members of the "Issues of the (Im)Possible" conference at Institute of Philosophy (Slovak Academy of Sciences) – September 2013 – for their comments.

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