

restriction, dependence, and ontology

postscript to ‘bare and indexical existence’¹

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In ‘[Bare and indexical existence](#)’ (2012), I introduced the notions of *bare* and *indexical existence*, based on a discussion of Peter van Inwagen’s theory of meta-ontology. That discussion was based on a certain interpretation of restricted and unrestricted quantification suggested by van Inwagen’s fourth thesis, but which may be problematic, and on a notion of *dependency* that was and is in need of further elaboration. In this short paper, I will *briefly* (and rather sketchily) address both problems. Section 1 focuses on interpretations of restricted quantification in relation with van Inwagen’s five meta-ontological theses. Section 2 presents an update of the notion of dependence as originally presented in section II of ‘Bare and indexical existence’.

1 — restriction

Any existential or universal quantifier has a domain M . Existential quantification introduces something that ‘exists’ within that domain. A restricted quantifier adds a limitation, a restricting property R such that $\exists_R x[\varphi(x)]$ is equivalent to $\exists x[R(x) \wedge \varphi(x)]$. Thus, anything quantified over by an unrestricted quantifier at least has the property of being a member of M , and anything quantified over by an R -restricted quantifier \exists_R has the additional property R (and is a member of the associated class $R = \{x | R(x)\}$, such that $R \subseteq M$).

In his influential paper “Meta-ontology” (1998) and/or its most recent update (2009), Peter van Inwagen presents five theses based on the work of Quine. The first four theses can together be summarized as: “being” = “existence” = \exists . Van Inwagen argues (thesis 1) that “being” is not an activity, and is not (part or aspect of) something’s nature either, but rather that being is

¹ Working paper — First draft: January 2013. This and other working papers are available at www.lajosbrons.net/wp.

'barren', *i.e.* "being" is not a property and does not involve properties either; (thesis 2) that "being" is the same as "existence"; (thesis 3) that "existence" is univocal; and (thesis 4) that "the single sense of being or existence is adequately captured by the existential quantifier of formal logic" (2009, 492). Van Inwagen's arguments seem valid, but it is important to note that that validity depends on the interpretation of *restriction* of the existential quantifier on which he founds the notion of existence (especially in case of the argument behind thesis 4, and theses 1 and 2).

Van Inwagen's fourth thesis, which argues that existence = \exists is primarily based on an analysis of the use of the verbs "to exist" and "to be" in ordinary language. The versatility of the verb "to exist" in ordinary language suggests that it can stand for absolutely unrestricted existential quantification. That is, \exists quantifies over absolutely everything. If the domain of quantification M is understood to be a set (which is usually assumed) then this is problematic because of Russell's paradox (see the essays in Rayo & Uzquiano 2006, especially that by Kit Fine; and Brons 2013). Hence, \exists cannot be *absolutely* unrestricted in this sense: there must be some non-paradoxical domain. Nevertheless, in 'Bare and indexical existence', I assumed \exists to be absolutely unrestricted in this sense, as that is what van Inwagen's fourth thesis seems to imply. (See Brons 2013 for a notion of unrestricted existential quantification that is nearly absolutely unrestricted.) If there is a specific limited domain of \exists , however, then that must be defined somehow, which raises the question what exactly the domain of quantification in van Inwagen's theory would (or could) be. (I will not give an answer to this question, however, but merely assess the most obvious answer found in van Inwagen's theory itself.)

Van Inwagen's *fifth* thesis very different from the first four: rather than defining "existence", it proposes a methodology for resolving metaphysical debates – hence, for *deciding what exists* – based on Quine's notion of 'ontological commitment'. According to van Inwagen, metaphysical debates are to be resolved by specifying the (minimal) ontological commitments implied in everything the debaters want to affirm. This is done by means of formalization in first-order logic and discarding the alternative formalizations that quantify existentially over more 'things' than necessary. Only if it cannot reasonably be avoided to existentially quantify over x (by reduction to something more primitive that is accepted as existing, for example), then x exists. In other words, existence is *quantificational unavoidability*. ("Quantificational unavoidability" is not a term van Inwagen uses, but is my attempt to capture the essence of his fifth thesis as clearly and briefly as possible.)

Van Inwagen's fifth thesis excludes what is quantificationally avoidable from the domain of the existential quantifier. Hence, it introduces an explicit domain. If this domain coincides with that of the unrestricted existential quantifier that defines existence according to thesis 4, then this would solve the aforementioned problem (of the underspecified domain of \exists). This, however, is not the case. The notion of existence in thesis 4 is a very broad and permissive notion: it includes quantification over things that do not exist yet, for example. The domain of \exists according to thesis 4 includes everything that *can* be quantified over in natural language. The domain of the quantifier suggested in thesis 5, on the other hand, includes just that what is

quantificationally unavoidable, but what is quantificationally avoidable is not quantificationally impossible; that is, it *can* be quantified over, and van Inwagen indeed says so explicitly: thesis 5 instructs to *select* from alternative formalizations; it distinguishes between what can be existentially quantified over, and what can *and must* be existentially quantified over (that is, what is quantificationally unavoidable), and only grants “existence” to the latter category. In other words, this quantifier is restricted relative to that suggested in thesis 4 by a property *quantificational unavoidability* (QU). By implication, van Inwagen’s theses involve two different quantifiers, an unrestricted existential quantifier \exists with a very large domain in theses 1 to 4, and a restricted quantifier \exists_{QU} ranging just over what is quantificationally unavoidable in thesis 5. He claims, however, that these are the same notion, and that is inconsistent.

2 – dependence²

Some properties are dependent on (the attribution of) other properties in such a way that for a D-dependent property F_D , F_Dx is *not* equivalent to $Fx \wedge Dx$. For example, ‘Sherlock Holmes lives-in-Baker-Street-as-a-fictional-object’ is not equivalent to ‘Sherlock Holmes lives in Baker Street and is a fictional object’; and ‘an *apcean* is a singular-object-as-composition’ is not equivalent to ‘an *apcean* is a singular object and a composition’. (An ‘*apcean*’ is a composition of an apple and an ocean. The term was first mentioned in Hirsh 1988.) In the first example, F_Dx is *not* $Fx \wedge Dx$, because fictional objects do not live in real streets. In the second example, there *is* no *apcean* without the attribution of compositionality to an apple and an ocean: the attribution of compositionality creates the *apcean as apcean*, and thus as singular object. It is only a singular object *as apcean* – that is, as composition – however; nothing is both a composition and a (unqualified) singular object (*i.e.* other than *as* composition).

In these and similar cases, the dependent property F_D is a two-place relation F between a variable x and a proposition p attributing the property D to that variable. F_Dx is an abbreviation of $F(x,p)$, which can be read as ‘ x is (an) F under description p ’, in which p is the proposition Dx , F is the *dependent property*, and D is the *productive property*, the property F is dependent on. The abbreviation F_Dx can be read as ‘ x is (an) F under description as (a) D ’.³

2 This section is an updated version of the argument in section II of ‘Bare and indexical existence’.

3 It should be noted that although the one-place predicate F is (obviously) not formally identical to the two-place predicate abbreviated as F_Dx , there is a *conceptual* identity. That is, the two-place predicate is a derivative of the one-place predicate and is defined *essentially* the same: if $F =_{df} A \& B$, then F_D is defined identically, but with the additional provision that at least one of the criteria in the *definiens* is equally dependent on D (*e.g.* $\text{detective}_{F_D} =_{df} \text{human}_{F_D} \& \dots$). Thus, *formally* Sherlock Holmes is not a detective, but a detective-as-fictional-object, and an *apcean* is not a singular object, but a singular-object-as-composition, but “detective” and “detective-as-fictional object” are not essentially different *concepts*, and neither are “singular object” and “singular-object-as-composition”.

An essential feature of this kind of ‘attributive dependency’ is that *if* F_Dx then *not* Fx because *if* Fx then *not* Dx (and obviously, *if not* Dx then *not* F_Dx). Consequently, a dependent property is a property that something can *only* have thanks to it having (been ascribed) the property it depends on. The property of living in Baker Street can only be attributed to beings that actually (can) live somewhere such as humans. Only real beings of the right kind (where “real” is opposed to fictional) can live somewhere. Thus, for any x , if x is fictional, then x does not live in Baker Street (or anywhere else). It is for this reason that van Inwagen (1977, 2003) suggests that fictional objects do not *have* certain properties, but *hold* them (or are ascribed them). Holding, like having, is a two-place relation between properties and variables (2003, 146n): $\text{has}(x,F)$ and $\text{holds}(x,F)$, but the former is more commonly written as Fx or $F(x)$. ‘Sherlock Holmes lives in Baker Street’ can then be formalized as:

$$\exists x [x=\text{Sherlock Holmes} \wedge \text{FO}(x) \wedge \text{holds}(x,\text{LBS})]$$

where FO stands for ‘is a fictional object’ and LBS for ‘lives in Baker Street’. The predication $\text{FO}(x)$ is redundant, however, since $\text{holds}(x,F)$ already implies fictionality: “holding” is ‘having-as-fictional-object’ (even though van Inwagen does not explicitly define it as such), and $\text{holds}(x,F)$ thus means ‘ x has property F as a fictional object’ or ‘ x is (an) F under description as FO’. In other words, $\text{holds}(x,F) \equiv F_{\text{FO}}x$ (see also Brons 2012). Van Inwagen’s key point, however, is that *because* Sherlock Holmes is a fictional object, ‘he’ can *hold* various properties that only non-fictional objects can *have*. In other words (leaving van Inwagen behind), because $\text{FO}(x)$, there can be some property F for which it is the case that *if* $\text{FO}(x)$ then *not* possibly Fx , and x holds that property (*i.e.* has that property as an FO: $F_{\text{FO}}x$), which can be generalized as:

$$\text{iff } D \text{ is a productive property, then } \forall x [Dx \rightarrow \exists F [(Dx \rightarrow \neg Fx) \wedge F_Dx]] \quad [\text{PP}]$$

The same applies to the case of compositionality or wholes: *because* an apcean is a composition (of an apple and an ocean), it can *hold* certain properties than only non-compositional entities can *have*, such as being a singular object.

In case of fictional objects, wholes, and compositions, having the productive property cannot be separated from existing – fictional objects, wholes, and compositions necessarily exist as fictional objects, wholes, and compositions. An apcean (but not its parts) is *created as* (and consequently *exists as*) composition by attributing compositionality to an apple and an ocean, and Sherlock Holmes is (or was) *created as* fictional object. (Perhaps, all productive properties are creative in this sense, but whether that is the case or not does not matter here.) This ontological creativity of the productive property (or of some productive properties, at least) is related, but not identical, to ‘ontological dependence’. Ontological dependence is the dependence of either the existence or the identity or essence of some entities on the existence of other entities (*e.g.* Fine 1995; Lowe 2006). The ontological creativity of productive properties, on the other hand, is

the existential dependency on *creation* as something, hence on a creative *act* (although probably rarely a conscious and intentional act).

Dependency on a creative act does not *necessarily* make productive properties and the dependent properties that depend on them subjective. There is nothing subjective about the fictionality of Sherlock Holmes, for example. The case of compositionality is more problematic, however. A ‘bare’ notion of compositionality can be distinguished from various more elaborate or ‘non-bare’ notions. The former can be roughly defined as: ‘a composition is a collection of multiple things or parts that together count as a singular object’. Alternative (non-bare) notions could be based, for example, on the Buddhist philosophical idea of the causal efficiency of the real: ‘a composition is a collection of multiple things or parts that are together (as collection) causally efficient, and therefore, count as a singular object’; or following van Inwagen (1990), the bare definition may be extended with the additional criterion of constituting a ‘life’. Under either extended definition, an apcean is not a composition, and thus not a singular-object-as-composition.⁴ The difference, however, is merely a difference in definition, there is no fact of the matter, and thus no way to choose the only and ultimately right definition, although some definitions may be more useful or appropriate than others.

Even though there may be subjectivity involved in some acts of creation as something, *dependent* properties – if attributed correctly – are not themselves subjective (or metaphorical). If x has – or is described as having – the productive property D , then it is objective fact that it has dependent property F_D if the (other) conceptual criteria for attribution of F_D are satisfied. Even in case of mis-attribution of a productive property, or in case of a highly subjective productive property, having the *dependent* property is objective truth or falsehood. If Sherlock Holmes is (described as) a fictional object and ‘he’ (objectively) satisfies the criteria for detective-hood, then it is objectively the case that Sherlock Holmes is a detective-as-fictional-object. Similarly, if an apcean is (described as) a composition, then it is objectively a singular-object-as-composition (given that it is a singular composition and assuming that a composition is some kind of object).

Ontological creativity makes productive properties ‘natural’ restrictions of existential quantifiers: if something is created as X , it exists as X . Hence, it can be the restricting property of a restricted existential quantifier, and that leads to a problem. If restricting property R is productive and P is an R -dependent property, then $\exists_{R,x}[Px]$ is a contradiction because from the equivalency of $\exists_{R,x}[\varphi(x)]$ to $\exists x[Rx \wedge \varphi(x)]$ it follows that $Rx \wedge Px$, while from $[PP]$ it follows that if Rx , then not possibly Px , and thus *not* $Rx \wedge Px$. The problem is obvious: P is R -dependent and it should therefore be written $\exists_{R,x}[P_{R,x}]$, in which case no contradiction ensues. However, as is the case with domain limitations or restrictions, dependency is often unmentioned, especially if the productive property is already mentioned (either explicitly or implicitly) as a restriction, and this further obscures use and meaning of “existence” and existential quantification, both in natural and formal languages.

⁴ Bare compositionality combined with a similarly extended definition of “object” leads to a partially similar, partially different result. An apcean then, is a composition, but such a composition does not count as an object and is thus *not* a singular-object-as-composition.

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