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Direct Reference and Logical Truth: a Reply to Lasonen-Aarnio

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In 'Externalism and A priori Knowledge of the World: Why Privileged Access is Not the Issue', Maria Lasonen-Aarnio raises an interesting problem for my reductio argument for the incompatibility of semantic externalism and privileged access. (See McKinsey 1991 and 2002.) I will consider the problem as it arises for the simplest form of my argument, which is based on the closure principle (CA):

> **Closure of apriority under logical implication** (CA)
> Necessarily, for any person x and propositions p and q, if x can know a priori that p, and p logically implies q, then x can know a priori that q.

Lasonen-Aarnio considers an instance of my reductio that concerns a thought ascribed by use of the demonstrative pronoun 'that':

(THAT1) Suzy can know a priori that she is thinking that that is poisonous.

(THAT2) The proposition that Suzy is thinking that that is poisonous logically implies the proposition that that exists.

Therefore,

(THAT3) Suzy can know a priori that that exists.

We can assume that in these occurrences the demonstrative 'that' refers to Fred (a certain snake, perhaps). Since Suzy can't possibly know a priori that Fred exists, (THAT3) is absurd. So if we take (CA) for granted, we seem to have shown that (THAT1) and (THAT2) are incompatible.

However, Lasonen-Aarnio provides a counter-argument to show that (CA) and (THAT2) *by themselves* imply the absurd (THAT3), given merely the plausible assumption that Suzy knows at least one proposition a priori. Let this proposition be r (perhaps r is the proposition that $2 + 2 = 4$). Lasonen-Aarnio then appeals to the following principle, which I will call (LT):

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(LT) If a given proposition *p* logically implies a proposition *q*, then the proposition that if *p* then *q* is a logical truth.

Given (LT), the premise (THAT2) implies that the following conditional proposition is a logical truth: if Suzy is thinking that that is poisonous then that exists. Following Lasonen-Aarnio, let us abbreviate this conditional as 'if *s* then *u*'. Since a logical truth is logically implied by any proposition, we have:

(4) The proposition that *r* logically implies the proposition that if *s* then *u*.

Since by assumption Suzy can know a priori that *r*, an application of (CA) to (4) yields:

(5) Suzy can know a priori that if *s* then *u*.

But since the conditional 'if *s* then u' itself expresses a singular, object-dependent proposition, we also have:

(6) The proposition that if *s* then *u* logically implies the proposition that that exists.

But then, one more application of (CA) to (5) and (6) yields the absurd consequence (THAT3), that Suzy can know a priori that that (Fred) exists.

Since the assumption that Suzy can know at least one proposition a priori seems innocent enough, Lasonen-Aarnio's argument, if correct, would seem to show that my closure principle (CA) is incompatible with such externalist theses as (THAT2). Since I take it that the truth of such externalist theses is shown by the truth of the direct reference view of terms like the demonstrative 'that', I also take it that Lasonen-Aarnio's argument, if correct, would provide a good reason to reject my closure principle (CA). Perhaps more cautiously, Lasonen-Aarnio takes her argument to show merely that denial of privileged access premises such as (THAT1) fails to help the externalist avoid commitment to such absurd consequences as (THAT3). But in any case, Lasonen-Aarnio's argument raises a serious problem for my *reductio*.

I think that the main weakness in Lasonen-Aarnio's argument lies in its appeal to the principle (LT). Whatever plausibility (LT) has would seem to derive from a similar principle in classical first order logic, where if an argument from a premise '*p*' to a conclusion '*q*' is logically valid, then the argument's corresponding conditional '$p \supset q$' is a logical truth. However, the very same semantic facts which support the direct reference view of singular terms, the facts which support the truth of such externalist theses as (THAT2), also show that classical first order logic is an inadequate tool for capturing the notion of logical truth in natural languages. These same semantic facts show that (LT) is a false, or at least a highly doubtful, principle about logical truth.

On the direct reference view, the proper names, indexical pronouns, and demonstrative pronouns of natural languages are what I call 'genuine terms'. (See for instance McKinsey 1984, 492 and 1986, 170.) A genuine term is a term whose sole semantic contribution to the propositions expressed by use of sentences containing the term is simply the term's semantic *referent*. This means that the proposition expressed by use of a sentence containing such a term is a *function* of the term's referent in that use. This in turn means that use of a sentence containing a genuine term that *fails* to refer (in that use) must also fail to express a proposition. But a sentence (or use) that fails to express a proposition also fails to *say* anything about the world, and so such a sentence (or use) has no truth value, that is, is neither true nor false.

I think it is clear that some of the genuine terms of natural languages at least sometimes fail to refer. But then the correct logic for (the first order fragments of) such languages must, unlike classical first order logic, be able to tolerate both failure of reference and failure of bivalence. The correct logic for such languages must in other words be a *free* logic. But in the forms of free logic that tolerate failure of bivalence due to failure of reference, the validity of an argument does *not* guarantee the logical truth of the argument's corresponding conditional.

Let us understand that a set of sentences Γ validly implies a sentence ϕ ($\Gamma \models \phi$) if and only if every interpretation on which every member of Γ is true is an interpretation on which ϕ is true. Let us also understand that a sentence ϕ is a logical truth ($\models \phi$) if and only if ϕ is true on every interpretation, so that ϕ is validly implied by every sentence.

Now consider a simple atomic sentence of the form '$\mathrm{F}a$', where 'a' is a genuine term. In neutral free logics as well as in some positive free logics, the argument from '$\mathrm{F}a$' to the conclusion '$(\exists x)(x = a)$' is counted as logically valid, since every interpretation of the non-logical constants that makes '$\mathrm{F}a$' true also provides a referent for 'a' and hence also makes '$(\exists x)(x = a)$' true. However, on these same free logics, the conditional '$\mathrm{F}a \supset (\exists x)(x = a)$' that corresponds to this argument is *not* a logical truth, since on some interpretations the term 'a' is provided no referent, so that both '$\mathrm{F}a$' and conditionals containing '$\mathrm{F}a$' have no truth value and so are *not true* on those interpretations.[1]

[1] Neutral free logics of the sort proposed by Lehmann (1994) have this feature. See also Smiley 1960, 129. Positive free logics with supervaluational semantics also have this feature, as van Fraassen pointed out. (See his 1966, 491–92. See also Bencivenga 1986, 411–412.) *Positive* free logics are those that allow some atomic sentences containing non-referring terms to be true, *neutral* free logics rule that all such sentences are without truth value, while *negative* free logics rule that all such sentences are false. (This classification is due to Lambert 2001.) My preference is for a neutral free logic, since such a logic, I believe, is required by the direct reference theory.

So the direct reference view of singular terms provides good reason to hold that conditional sentences of the form '$Fa \supset (\exists x)(x = a)$' are in fact not logical truths. But then the propositions expressed by such sentences are not logical truths either, since surely, a proposition is logically true only if the sentences that perspicuously express the proposition are also logically true. Nevertheless, any argument from a proposition of the form 'Fa' to a conclusion of the form '$(\exists x)(x = a)$' will be logically valid, that is, the premise will logically imply the conclusion. So the direct reference theory provides the basis of cogent counter-examples to, and hence provides good reason to doubt, Lasonen-Aarnio's principle (LT). But of course without (LT), Lasonen-Aarnio's objection to my reductio does not work. For without appeal to (LT), the absurd conclusion (THAT3) – that Suzy can know a priori that Fred exists – cannot be derived without using the privileged access premise (THAT1).

On my view, no (non-cognitive) sentence containing a genuine term expresses a logical truth.[2] Even tautologies like '$Fa \vee \sim Fa$' and identities of the form '$a = a$' fail to express logical truths, since when 'a' fails to refer, these sentences fail to express propositions and thus have no truth value. (See Smiley 1960, 129, Lehmann 1994, 328, and Pryor 2006, 337.)

The general failure of sentences containing genuine terms to express logical truths can be explained from another perspective as being due to the fact that when such sentences succeed in expressing singular propositions, the propositions expressed typically have contingent existence presuppositions, even when in classical logic the sentences and the propositions they express would be treated as logical truths. (See McKinsey 2002, 208–210.) For instance, consider identities such as the proposition that Venus = Venus. This singular proposition cannot exist, and hence cannot be true (at any possible world) unless Venus exists (in the actual world). Thus the truth of this proposition (and other identities) is not a matter of logic alone, but is in part a matter of the contingent existence of (in this case) a certain planet. Thus singular identity propositions should not be counted as logical truths.

Similarly, singular propositions that would be counted as logical truths in classical logic cannot always be known a priori on the basis of logic alone. Thus we cannot know that Venus = Venus without knowing that Venus exists, and again the existence of Venus cannot be established by logic alone. Of course once we do know (a posteriori) that Venus exists, then our a priori knowledge that $(\forall x)(x = x)$ suffices to provide us with (a posteriori) knowledge that Venus = Venus.

[2] By a 'non-cognitive' sentence I mean a sentence that contains no cognitive operator, such as 'believes that', 'knows that', 'thinks that', and so on.

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