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Abstract

Many philosophers still believe that metaphysically analytic sentences exist, where a sentence is understood to be metaphysically analytic if and only if it is true solely in virtue of its meaning. I provide two arguments against this claim and hence conclude that metaphysically analytic sentences do not exist. Still, some philosophers, however, hold out hope that epistemically analytic sentences exist, where a sentence is epistemically analytic if and only if an agent's understanding the sentence suffices for the agent to be justified in believing that this sentence is true. One such philosopher is Paul Boghossian, whose so-called analytic theory of the a priori is intended to show how epistemically analytic sentences can explain our a priori knowledge of the truths about logic. His theory, however, relies on the dubious Argument by Implicit Definition. I provide an objection to this argument and hence conclude that Boghossian's analytic theory of the a priori fails to vindicate the notion of epistemic analyticity. Still, I concede that just because Boghossian's attempt to do so fails, it does not follow that the notion of epistemic analyticity cannot, in another way, be vindicated.

1. Introduction

In this paper, I shall discuss two concepts of analyticity. The first is of metaphysical analyticity, which suggests that a true sentence is analytic if and only if it is true solely in virtue of its meaning. The second is of epistemic analyticity, which suggests that a true sentence S is analytic if and only if an agent T's understanding S suffices for T to be justified in believing that S. I wish to defend two claims regarding analyticity in this paper. First, I will argue that there are no metaphysically analytic sentences. Second, I will reject Boghossian's analytic theory of the a priori, in which epistemically analytic sentences can supposedly explain our a priori knowledge of truths about logic.

2. The Nonexistence of Metaphysically Analytic Sentences

While I take Quine's well-known circularity objection against analyticity to fail both because of this objection's commitment to implausible logical positivist principles and because of this objection's entailing an unpalatable kind of meaning anti-realism,[1] metaphysical analyticity is not off the hook. I shall now present two arguments for the claim that there are no metaphysically analytic sentences.

First, we ought to reject that there could be any metaphysically analytic sentences, as all true sentences are at least partly made true by some feature of the world. For example, take the ostensibly metaphysically analytic sentence 'Copper is copper.' This sentence's being true seems to be at least partly due to some feature of the world. Namely, it is true at least partly because everything in the world is self-identical. This feature of the world plays at least some explanatory role as to why the sentence 'Copper is copper' is true—in other words, as to why copper is self-identical. Hence, 'Copper is copper' is not metaphysically analytic. Similar reasoning could be applied to any other candidate metaphysically analytic sentence. Therefore, there are no metaphysically analytic sentences.[2]

One friendly to the outdated school of logical positivism might reply that since 'Copper is copper' expresses a necessarily true proposition and since sentences which express necessarily true propositions do not say anything about the world, it follows that 'Copper is copper' does not say anything about the world. Furthermore, if this is the case, then there is no feature of the world that can play any explanatory role as to why 'Copper is copper' is true.

I take it that my objection to this reply will be fairly obvious. I deny that if a sentence expresses a necessary proposition, then this sentence does not say anything about the world. Take, for example, the sentence 'Water is H_2O'. This sentence is necessary and yet says something substantive about the world. Other sentences which plausibly have this feature are 'Logical contradictions cannot be instantiated', 'The set of real numbers is of a higher cardinality than the set of natural numbers', and 'All female mammals, at birth, have mammary glands'. Therefore, it is false to suppose that just because 'Copper is copper' expresses a necessary proposition, that it cannot say anything about the world. Therefore, the aforementioned logical positivist reply is unsound.

[1] Soames, *Philosophical Analysis in the Twentieth Century*, (New Jersey: Princeton University Press, 2003) 360, 377.
[2] Harman, "Quine on Meaning and Existence, I. The Death of Meaning," *The Review of Metaphysics*, 128.

Before I develop my second objection to the existence of metaphysically analytic sentences, allow me to present a key assumption that I will make. I will assume that, for any proposition p and for any non-Liar's-Paradox sentence S, "S is true iff for some p, S means that p and p."[3] Note that we cannot allow S to be a Liar's Paradox sentence, where I understand a Liar's Paradox sentence to be a sentence which implies that the sentence 'This sentence is false' is true. The reason for this restriction is that a contradiction would result if we did allow S to be a Liar's Paradox sentence; a contradiction results whether S is true or false. Suppose S is true Liar's Paradox sentence. It then follows that 'This sentence is false' is true; but since this sentence is true, it is also false! So instead suppose that S is a false Liar's Paradox sentence. It then follows that 'This sentence is false' is false; but since this sentence is false, it is also true! Therefore, we must, on pain on contradiction, not allow S to be a Liar's Paradox sentence.

I will now present my second objection to the existence of metaphysically analytic sentences. Suppose, for *reductio*, that S is a metaphysically analytic sentence. Then S is true solely in virtue of its meaning.

But then S's meaning must, by itself, make p true. S's meaning must make p true because S is metaphysically analytic and S's being metaphysically analytic simply amounts to S's meaning, by itself, explaining why S is true. For S's meaning—by itself—to explain why S is true, however, S's meaning—by itself—must also explain why the proposition p expressed by S is true. The truth of p must at least partially explain why S is true. For if p were false, S would also be false; recall that S is true iff both S means that p and p. So, unless S's meaning explains why p is true, it would follow that S's meaning does not suffice to explain why S is true. But then, surely, S could not be metaphysically analytic.

Hence, since we assumed for the purpose of *reductio* that S is metaphysically analytic, S's meaning must make p true. This is troubling, since S's meaning cannot make p true. If S's meaning did make p true, then it would follow that, before we assigned S a meaning, p was not true. This is an absurd result. For example, let us assume that the sentence 'All animals are animals' is metaphysically analytic. This sentence must make the proposition Q that it expresses true. Hence, Q could not have been true until we assigned meaning to the sentence 'All animals are animals.' But this is absurd. Surely, Q was true before this act of meaning-assignment! Since an absurd result is derived under the assumption that the sentence S is metaphysically analytic, it follows, by *reductio*, that S is not metaphysically analytic after all. But S is an arbitrary non-Liar's-Paradox sentence. Hence, all non-Liar's-Paradox sentences fail to be metaphysically analytic. From the mere fact that a non-Liar's Paradox sentence S means that p, it cannot follow that S is true—p must also be true. Furthermore, it seems clear that no Liar's Paradox sentences can be metaphysically analytic; they imply contradictions—

[3] Boghossian, "Analyticity," 335.

and hence cannot be true—and metaphysically analytic sentences are, by definition, true. Therefore, since any given sentence must either be a Liar's Paradox sentence or not, there are no metaphysically analytic sentences. This concludes my second objection to the existence of metaphysically analytic sentences.

3. Boghossian's Analytic Theory of the A Priori

While these two objections suggest that there are no metaphysically analytic sentences, Boghossian argues for the interesting view that "fortunately for the analytic theory of the a priori, it can be shown that it need have nothing to do with this discredited idea [of metaphysical analyticity]."[4] Before I present any objections to this view, I will outline Boghossian's view—his "analytic theory of the aprioricity of logic, the idea that [truths about logic] are epistemically analytic."[5] First, however, allow me to describe Frege-analyticity and Carnap-analyticity, as these terms shall be useful in the ensuing discussion.

A Frege-analytic sentence S is such that it can be transformed into a logical truth by substituting synonyms for synonyms within S. According to Boghossian, S would then be epistemically analytic only if both truths about synonymy and truths about logic were knowable a priori.[6] This is the case because an agent could be justified in believing a Frege-analytic sentence S from just understanding S only if both the actions of substituting synonyms for synonyms and recognizing a sentence could be done without appealing to particular experiences. While it is controversial whether truths about synonymy are knowable a priori or not, let us put aside such concerns for the sake of convenience.[7] So, in this paper, I will simply assume that truths about synonymy are knowable a priori. The debate over how truths about logic could be known a priori, however, is one I wish to engage with shortly.

First, however, allow me to describe Carnap-analyticity. A Carnap-analytic sentence S is such that it provides an implicit definition of at least one of its constituent terms.[8] A sentence provides an implicit definition of one of its constituent terms when its truth requires that the constituent term in question has a certain meaning. As we shall soon see, Boghossian uses Carnap-analytic sentences in order to attempt to show how we could have a priori knowledge of truths about logic.

As mentioned earlier, some Frege-analytic sentence S is epistemically analytic only if truths about logic are knowable a priori. We cannot, however, use Frege-analytic

[4] Boghossian, "Analyticity," 335.
[5] Boghossian, "Analyticity," 336.
[6] Boghossian, "Analyticity," 337.
[7] Margolis, "Boghossian on Analyticity," *Analysis*, 296.
[8] Boghossian, "Analyticity," 339.

sentences to show that truths about logic are knowable in this way, since true sentences about logic are trivially Frege-analytic. As we shall soon see, Boghossian believes that Carnap-analytic sentences will explain why truths about logic are knowable in the needed way.

Now I will outline Boghossian's analytic theory of the aprioricity of logic. Of vital importance to this theory is the following argument for the validity of any valid argument-form, or inference rule. I shall call the following argument the Argument by Implicit Definition[9]:

(1) If logical constant C is to mean what it does, then argument-form A is valid, for C means whatever logical object in fact makes A valid.
(2) C means what it does.
Therefore,
(3) A is valid.

If an argument-form A and logical constant C were supplied, (1) would be a Carnap-analytic sentence, since it would implicitly define the logical constant C as meaning what it needs to mean in order to make the argument-form A valid, where logical constants are English logical expressions such as 'and', 'or', 'only if ', 'every', 'not', etc. I understand logical constants to be as such for the sake of convenience; my later claims in this paper will still stand if we instead understand logical constants to be symbols of formal first-order logic such as '&', '→', '¬' etc. (2) merely states that the logical constant C means whatever it is that C means. Also note that both (1) and (2) are truths about the meaning of C and appear to be knowable a priori. Hence, (3) would also be knowable a priori, since (1) and (2) together imply (3) by modus ponens.

Boghossian mistakenly claims that the argument-form A is epistemically analytic.[10] I contend that this is not what he should claim, as A is an argument-form, and is hence only capable of being valid, not true. Hence, Boghossian mistakenly assumes that A is even the kind of thing which could be epistemically analytic; epistemically analytic sentences must be the sort of thing which could be true. Still, I do not think that this concern would really amount to any particularly good reason to reject Boghossian's analytic theory of the a priori if (3), given that an argument-form A and logical constant C are supplied, was said to be epistemically analytic instead. In any case, I shall be generous here and grant that (3) is epistemically analytic if the Argument by Implicit Definition is convincing.

The intended upshot of the Argument by Implicit Definition is that an agent can have a priori knowledge of the validity of valid logical argument-forms. Furthermore, the

[9] Boghossian, "Analyticity," 348.
[10] Boghossian, "Analyticity," 356.

argument vindicates the notion of epistemic analyticity, as, for any valid argument-form A, the sentence 'A is valid' will be epistemically analytic. Furthermore, as truths about logic are supposedly knowable a priori, Frege-analytic sentences could be epistemically analytic. Boghossian even has high hopes that it can be explained how some non-Frege-analytic sentences such as 'Whatever is red all over is not blue' are knowable a priori.[11] Therefore, the Argument by Implicit Definition, if it is successful, has significant, positive results regarding the epistemology of logic, analyticity, and the a priori.

4. Objection to Boghossian's Analytic Theory of the A Priori

As much as I want to vindicate such significant positive results, and hence was initially attracted to Boghossian's view, the Argument by Implicit Definition is vulnerable to at least one objection.

Consider the following logical constant 'tonk', whose "meaning is completely given by the [two] rules that…from any statement P we can infer any statement formed by joining P to any statement Q by 'tonk'… and that…from any 'cotonktive' statement P-tonk-Q we can infer the contained statement Q."[12] Let us say that tonk elimination is the second argument-form, whereby Q is inferred from P-tonk-Q. Let us then consider the following argument, which is the Argument by Implicit Definition with tonk elimination substituted for A and 'tonk' substituted for C:

(i) If the logical constant 'tonk' means what it does, then tonk elimination is valid.
(ii) The logical constant 'tonk' means what it does.
Therefore,
(iii) Tonk elimination is valid.

Let us consider (ii) first before considering (i). (ii) must be true, since it is true that 'tonk' means whatever it does mean; for any entity M, it must be true that if 'tonk' means M, then 'tonk' means M. Note that this conditional is trivially true if 'tonk' has no meaning, as some might contend. Hence, if the argument is unsound, the problem must be with (i).

This is indeed the case, as (i) is false. While the antecedent of (i) is true, its consequent is false; tonk elimination is invalid. This can easily be seen by the following inference, which tonk elimination would allow: '2+2=4 tonk 2+2=5'. Therefore, by tonk elimination, '2+2=5' is true. Note that '2+2=4 tonk 2+2=5' is true, since, as long as P or Q is true, P-tonk-Q is true. As '2+2=4' is true, it follows that '2+2=4 tonk 2+2=5' is

[11] Boghossian, "Analyticity," 338-339.
[12] Prior, "The Runabout Inference-Ticket," *Analysis* , 39.

true. Hence, since it is true that '2+2=4 tonk 2+2=5' and it is false that '2+2=5', it follows that tonk elimination can lead from true premises to a false conclusion. Hence, tonk elimination is invalid. Therefore, (i) is false. This shows that premise (1) of the Argument by Implicit Definition is false, as (1) implies that (i) is true. This is the case because (i) is just (1) with substitutions performed for A and C. So the Argument by Implicit Definition is unsound.

One might respond to this objection by denying that 'tonk' even counts as a logical constant. Therefore, as my objection presupposes that 'tonk' is a logical constant, my objection must lack bite. I have two replies to this response.

First, the motivation for denying that 'tonk' is a logical constant would presumably be that we should only allow an expression to be a logical constant only if its corresponding argument-forms are valid. Therefore, since tonk elimination corresponds to 'tonk' and is invalid, we should not consider 'tonk' as a logical constant. The problem with this reasoning is that it would only allow us to consider logical constants whose corresponding argument-forms were previously known to be valid when running the Argument by Implicit Definition. But the conclusion of this argument is that one of the logical constant's corresponding argument-forms is valid! Therefore, since this move would permit us to only consider logical constants whose corresponding argument-forms were previously known to be valid when running the Argument by Implicit Definition, it would lead to the Argument by Implicit Definition's being viciously circular.

Second, even if we were to grant that 'tonk' is not a logical constant, (i) is still false. Tonk elimination is still invalid, so the consequent of (i) is still false. Furthermore, the antecedent of (i) is still true. It is true that the logical constant 'tonk' means whatever it does mean, even if 'tonk' is not a logical constant at all. In other words, it is still true that for any entity M, if the logical constant 'tonk' means M, then the logical constant 'tonk' means M. This is so, since for any false propositions Y and Z, it is trivially true that Y only if Z. So if 'tonk' is not a logical constant, the antecedent of (i) is itself a conditional with a false antecedent and a false consequent. Hence, the antecedent of (i) is true. Therefore, (i) is false. As a result, premise (1) of the Argument by Implicit Definition is still false.

5. Conclusion

In conclusion, not only do metaphysically analytic sentences fail to exist, Boghossian's analytic theory of the a priori fails to vindicate epistemic analyticity, as the theory relies on the dubious Argument by Implicit Definition. The failure of Boghossian's account, however, does not imply that there cannot be an account that shows both that

epistemically analytic sentences exist and that they have explanatory power. Other accounts of epistemic analyticity would have to be considered and rejected to do anything like this.

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