

Quine on the analytic/synthetic distinction

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In the first four sections of his 1951 paper “Two Dogmas of Empiricism”, Quine presented another argument against the attempt to use analyticity to explain necessity and the a priori. Unlike his first argument, Quine’s second critique applied not only to Ayer’s attempt to give a non-relative sense in which a sentence could be true by convention or definition, but also to the idea that a sentence could be knowable a priori because it is definable in terms of another a priori truth. (I.e., in the terminology used earlier, it counts against relative as well as absolute senses of ‘true by definition.’) So Quine’s second critique, if successful, would rule out Ayer-style explanations of the a prioricity of mathematics, even if we could give some independent account of the a priori nature of propositions of logic. So the aim of Quine’s second critique is to show that the notion of analyticity, if thought of as explanatorily prior to necessity and a prioricity, makes no sense.

The basic premise underlying Quine’s argument is a simple one: if analyticity is to be used to explain both a prioricity and necessity, then we should be able to explain what analyticity is without using facts about what is a priori and what is necessary in the explanation. Quine argues that this cannot be done.

1 Analyticity and synonymy

Philosophers often say that analytic truths are *true by definition* or *true in virtue of meaning alone*. But it is not entirely clear what these slogans mean. Quine, plausibly, says (22-23) that what these philosophers have in mind is the idea that a sentence is analytic if and only if it can be turned into a logical truth by replacing synonyms with synonyms (or, equivalently, definiens with definiendum). This leads to a first attempt to define analyticity:

Definition of analyticity. S is analytic \equiv_{df} S can be turned into a logical truth by replacing synonyms with synonyms.

(We can think of logical truths as analytic under this definition by treating every expression as synonymous with itself. Quine calls logical truths ‘analytic statements of the first class’ and analytic truths which are not logical truths ‘analytic statements of the second class.’ He therefore sometimes expresses the problem of defining analyticity as the problem of explaining what it takes to be an analytic truth of the second class, since for purposes of this paper he is taking the notion of logical truth to be unproblematic.)

So then in order to explain analyticity, we need to explain two notions without presupposing any facts about the necessary or the a priori: synonymy and logical truth. For purposes of this article, Quine in effect grants that the notion of logical truth is unproblematic. He asks instead: what is it for two expressions to be synonymous?

2 Synonymy and definition (§2)

Quine suggests first that we can explain synonymy in terms of the notion of a definition:

“There are those who find it soothing to say that the analytic statements of the second class reduce to those of the first class, the logical truths, *by definition*: ‘bachelor’, for example, is *defined* as ‘unmarried man.’ . . . Who defined it thus, and when? Are we to appeal to the nearest dictionary . . . ? Clearly, this would be to put the cart before the horse. The lexicographer is an empirical scientist, whose business is the recording to antecedent facts; and if he glosses ‘bachelor’ as ‘unmarried man’ it is because of his belief that there is a relation of synonymy between those forms . . . prior to his own work.” (24)

The idea that definition presupposes synonymy rather than explains it. A way to spell out this argument based on the possibility that dictionaries could contain mistakes.

3 Synonymy and interchangeability *salva veritate* (§3)

So it seems that to understand what it takes for two expressions to be synonymous, we should look not to what lexicographers say about words, but to features of those words in virtue of which such judgements are correctly made. Quine suggests a plausible way of doing this:

“A natural suggestion, deserving close examination, is that the synonymy of two linguistic forms consists simply in their interchangeability in all contexts without change of truth value — interchangeability, in Leibniz’s phrase, *salva veritate*.” (27)

The central argument of the paper is that this kind of substitutability does not give us the resources for an adequate explanation of synonymy. Quine will conclude that there is no explanation of synonymy suitable to explain the analytic/synthetic distinction.

Quine begins by considering the hypothesis that two sentences are synonymous if and only if they are substitutable in a language with the expressive power of English.

1st Definition of synonymy

Two expressions ‘ e_1 ’ and ‘ e_2 ’ are synonymous \equiv_{df} every truth of the form ‘ $\dots e_1 \dots$ ’ can be transformed into another true sentence ‘ $\dots e_2 \dots$ ’ by replacing ‘ e_1 ’ with ‘ e_2 ’.

The problem of quotational contexts. A solution to this: Tarskian views of quote-names as semantically simple, and a rule restricting the relevant kinds of substitution to the substitution of whole words. This leads us to a second proposed definition of synonymy:

2nd Definition of synonymy

Two expressions ‘ e_1 ’ and ‘ e_2 ’ are synonymous \equiv_{df} every truth of the form ‘ $\dots e_1 \dots$ ’ can be transformed into another true sentence ‘ $\dots e_2 \dots$ ’ by replacing ‘ e_1 ’ with ‘ e_2 ’, where substitutions are restricted to those which replace whole words with whole words.

This appears to be an improvement, since it solves the problem of quotational contexts. Quine suggests that there is some reason to think that this kind of definition will single out the synonymous expressions:

“What we need is an account of cognitive synonymy not presupposing analyticity . . . The question before us . . . is whether [interchangeability *salva veritate* except within words] is a sufficient condition for cognitive synonymy. We can quickly assure ourselves that it is, by examples of the following sort. The statement:

(4) Necessarily all and only bachelors are bachelors

is evidently true . . . Then, if ‘bachelor’ and ‘unmarried man’ are interchangeable *salva veritate*, the result:

(5) Necessarily all and only bachelors are unmarried men

. . . must, like (4), be true. But to say that (5) is true is to say that [‘All and only bachelors are unmarried men’] is analytic, and hence that ‘bachelor’ and ‘unmarried man’ are cognitively synonymous.” (29)

The idea here is that if the necessary truths are analytic, then the truth of any sentence of the form ‘Necessarily, all and only F s are G s’ will imply that ‘All and only F s are G s’ is analytic. But then since every expression of the form ‘Necessarily, all and only F s are F s’ is true, it is trivial to use substitutability *salve veritate* to define analyticity.

Quine thinks that there is something fishy about this way of making sense of the analytic/synthetic distinction:

“Let us see what there is about the above argument that gives it its air of hocus-pocus. The condition of interchangeability *salva veritate* varies in its force with variations in the richness of the language at hand. The above argument presupposes that we are working with a language rich enough to contain the adverb ‘necessarily’, this adverb being construed as to yield truth when and only when applied to an analytic statement. But can we condone a language which contains such an adverb? Does the adverb really make sense? To suppose that it does is to suppose that we have already made satisfactory sense of ‘analytic.’ Then what are we so hard at work on right now?” (29-30)

A way to present Quine’s point via a parody of the above attempted validation of the analytic/synthetic distinction via a language containing the operator ‘It is analytic that.’

Quine’s point: if we want to use interchangeability to explain the analytic/synthetic distinction, we have to restrict the language interchangeability in which is employed in the explanation, to ensure that our explanation does not already presuppose the notion of analyticity: “Interchangeability *salva veritate* is meaningless until relativized to a language whose extent is specified in relevant respects.” (30)

The idea of an extensional language. The relation of extension languages to the kinds of Tarskian truth theories discussed earlier.

A third attempt to define synonymy which solves the problem posed by both quotational and non-extensional contexts:

3rd Definition of synonymy

Two expressions ‘ e_1 ’ and ‘ e_2 ’ are synonymous \equiv_{df} in an extensional language, every truth of the form ‘ $\ulcorner \dots e_1 \dots \urcorner$ ’ can be transformed into another true sentence ‘ $\ulcorner \dots e_2 \dots \urcorner$ ’ by replacing ‘ e_1 ’ with ‘ e_2 ’, where substitutions are restricted to those which replace whole words with whole words.

But Quine objects to this definition of synonymy as follows:

“In an extensional language . . . interchangeability *salva veritate* is no assurance of cognitive synonymy of the desired type. That ‘bachelor’ and ‘unmarried man’ are interchangeable *salva veritate* in an extensional language assures us of no more than that [‘All bachelors are unmarried men’] is true. There is no assurance here that the extensional agreement of ‘bachelor’ and ‘unmarried man’ rests on meaning rather than merely on accidental matters of fact, as does the extensional agreement of ‘creature with a heart’ and ‘creature with kidneys’. ” (31)

As Quine says, this definition of synonymy, though it has the virtue of not presupposing facts about analyticity, seems too weak. Consider, for example, the following two pairs of sentences: ‘is a creature with a heart’/‘is a creature with a kidney’; ‘the first Prime Minister of Canada’/‘John MacDonald.’ These do not seem to be synonyms, as is seen by the fact that by replacing one with the other we can move from analytic and a priori sentences like

Every creature with a heart is a creature with a heart.

The first Prime Minister of Canada is the first Prime Minister of Canada.

to sentences which seem neither analytic nor a priori like

Every creature with a heart is a creature with a kidney.

The first Prime Minister of Canada is John MacDonalD.

However, these expressions do seem to be substitutable *salva veritate* in extensional contexts.

4 Semantical rules (§4)

Why we cannot use the notion of a semantical rule to define analyticity for a formal language.

...

Quine's conclusion:

“It is obvious that truth in general depends on both language and extralinguistic fact. ... Thus one is tempted to suppose in general that the truth of a statement is somehow analyzable into a linguistic component and a factual component. Given this supposition, it next seems reasonable that in some statements the factual component should be null; and these are the analytic statements. But, for all its a priori reasonableness, a boundary between analytic and synthetic statements simply has not been drawn. That there is such a distinction to be drawn at all is an unempirical dogma of empiricists, a metaphysical article of faith.” (36-37)