Realism and Independence

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1.

Realism is a declaration of independence. It is a philosophical position whose variants exhibit a characteristic normal form. A realist view of a sentence will first cite a semantical property and then claim that the sentence has that property independently of something. Frege [9] thought that arithmetic claims are true or false and went on to assert that the truth value of an arithmetic statement does not depend on our linguistic conventions, or on the mental images that may accompany our discourse, or on our epistemic abilities to find out what the truth value of the sentence is. The “somethings” which Frege singled out in his independence claim are entirely typical. Realists from Plato onward, have argued that man is not the measure of all things. Our mental contents and abilities form a very small part of the universe. Even if our minds were much different—even if there were no sentient beings at all — 2 + 3 would still equal 5.

Idealism and verificationism each deny the realist declaration. The idealist sees each sentence which has a truth value as being about mental entities. Any sentence which is not about minds and their contents is meaningless, according to Berkeley [3]. Verificationism forges a parallel link between a sentence’s having a truth value and our mental characteristics. The verificationist asserts that a sentence has a truth value if, and only if, we can discover its truth value. Although idealism and verificationism both challenge the realist position, they posit different dependence relations between mind and reality.

Some verificationists, like Neurath [16], have understood the sentences of physical science as being about an external world of nonmental entities. These sentences, he thought, are verifiable, though nonmental in their subject matter. Other verificationists, like the Carnap of “Empiricism, Semantics, and Ontology” [5], have seen the question of the truth or falsity of idealism as itself undecidable and therefore meaningless. Although nonidealistic verificationists like Neurath and Carnap are not uncommon, nonverificationist idealists seem to be
rather thin on the ground. This is perhaps because one of the principle attractions of idealism is that it seems to locate the subject matter of science in a place that is accessible. After all, aren’t my mental contents just the sort of thing that I can know about? The Cartesian tradition runs strong, and the view that there may be truths about the mind which we are incapable of discovering has not been attractive to many. Nevertheless, verificationism and idealism are mutually independent, though each challenges realism’s independence claim.

Characterizing the opposition to realism in this way allows one to characterize several tendencies that are present in realism itself. In what follows, I will describe a number of problems that confront a systematic articulation of realism. Intuitionism in mathematics, conventionalism in geometry, idealism concerning physical objects, nominalism about universals, and fictionalism in psychology have each been challenged by philosophers who call themselves “realists”. Given the similar kinds of arguments that one can detect in these multifarious responses, it is perhaps natural to expect that underlying these different particular disputes there is a general realist metaphysics. In the next section of this paper, I take up this issue by considering problems that arise when one tries to formulate a realist thesis about every sentence. It is an interesting question whether this can be done, and if so, what the form of global realism should be.

Whether or not there is a tenable form of global realism, particular local realisms still crucially depend on the idea of independence. In §3, I turn to the notion of independence itself, and examine what is perhaps the main way in which the independence relation is understood—in terms of counterfactuals. Frege’s idea that mathematical statements are independent of human activity, but depend for their truth value on a realm of abstract objects, poses a difficult problem for theories of counterfactuals, and, moreover, must be made more precise, if it is to avoid trivial refutation. In §4 I consider how realism’s independence claim is related to Tarski’s theory of truth. Although Tarski’s theory is usually thought to be a hospitable home for realism, I argue that Tarski’s theory is not the vindication of realism that it is sometimes thought to be. These arguments are not meant to undermine the plausibility of realism, but to show how much work needs to be done before we can really claim to have a clearly articulated position in hand.

2.

Consider the following kind of independence claim that a realist might consider asserting:
For any sentence \( s \), the truth value of \( s \) is independent of:
- human thought.
- our linguistic conventions.
- our ability to discover the truth value of \( s \).
- whether we reflect on \( s \).

Each of these independence claims is false. To see why, simply take the first assertion. Now construct some sentence which is about human thought. Presumably, which truth value this sentence has will depend on facts about human thought. Global realism, formulated as in (1), says that there is something on which no sentence’s truth value depends. But the something which is specified itself constitutes a subject matter, and a statement’s truth value can hardly be independent of what the statement is about. Independence claims like (1) are mainly intended to reject idealism, so it is no wonder that they fail when taken to be global claims concerning all sentences. After all, some statements are about minds and mental contents.

But we can modify (1) so as to express a form of global realism which opposes verificationism, and leave aside the question of what different statements are about. The verificationist holds that a sentence has a truth value if and only if it is verifiable. A global realism which rejects this dependence relation might be formulated as follows:

For any sentence \( s \), \( s \)'s having a truth value is independent of our ability to find out what \( s \)'s truth value is.

Can the kind of diagonal argument provided against (1) be given against (2)? That is, can we find a sentence such that the supposition that it has a truth value entails that we can find out what its truth value is or entails that we cannot find this out?

There are some sentences such that the assumption that they are true or false leads to contradiction. One such is:

This sentence is false.

Perhaps the claim that (3) has a truth value implies everything, including the sentence “We can find out the truth value of (3)”. But presumably, the existence of sentences like (3) does not refute realism. The reason is that (3) does not have a truth value, and realism, as stated in (2), is a claim about all sentences which do have truth values. Are there any of those which provide a counterexamples of (2)?

According to classical logic, the answer to this question will be no. Every sentence is either true or false. For a sentence to be a counterexample to (2), both it and its negation must imply “we can (can’t)
find out what s’s truth value is”. But the only common implications of a sentence and its negation are logical truths. So (2) is false only if there is a sentence s such that the claim “we can (can’t) find out what s’s truth value is” is a logical truth. But it appears that there is no such sentence.

However, even if (2) is a consequence of certain doctrines of classical logic, this does not show that (2) is a plausible statement of realism. For example, it should be possible for one to accept a presupposition logic of the kind adumbrated by Strawson [23] and developed by van Frassen [27] and still be a realist. In this logic, a sentence will be neither true nor false when one of its presuppositions is false. Now consider the sentence

(4) Charlie’s lecture, which correctly pointed out that we are in principle capable of discovering the truth value of any sentence, was rather boring.

This sentence presupposes that every statement is decidable, so it presupposes that (4) is decidable. If (4) is true, then we can find out what the truth value of (4) is. And if (4) is false, we can find out what the truth value of (4) is. So the assumption that (4) is true or false entails that we can find out what the truth value of (4) is. My point here is not to argue for the correctness of presupposition logic, but merely to show that if (2) correctly characterizes realism, then it is impossible to advocate realism and defend the logic of presuppositions. But this seems wrong: Someone might argue that a sentence’s being true, or false, or neither true or false, is a perfectly objective nonarbitrarily matter, and proceed to defend a realist metaphysics along with a presuppositional account of the nature of one or more languages.3

The same kind of problem arises when we consider some features of the liar paradox. It is perhaps a purely logical noncontingent matter that (3) lacks a truth value, but can the same be said of the sentence

(5) All assertions made by Cretans are false.

Given one view of the matter, most rigorously developed by Tarski [24], it is never an empirical matter whether a sentence has a truth value; this is settled by attention to certain logical features of the sentence and the language of which it is a part. But there is another view, suggested by van Fraassen [28] and Kripke [14], according to which whether (5) has a truth value depends on facts about Cretans. If (5) is true, then no Cretan actually asserted it.4 If (5) is false, then there must be some other assertion made by a Cretan which is true. So if (5) is true or false, then either it wasn’t asserted by a Cretan, or some (other) assertion made by a Cretan is true.
Thus, (5) will lack a truth value if the following contingent, empirical propositions are true:

(5a) Epimenides asserts (5).

(5b) Epimenides is a Cretan.

(5c) There is no assertion different from (5) which any Cretan ever made which is true.

It is somewhat surprising to learn that anyone’s nationality could have an impact on the truth-valuedness of sentences. One might have been tempted to say: nationality is one thing, whether a sentence has a truth value is another. But the fact that a sentence can be paradoxical for empirical reasons subverts this neat dichotomy. Truth-valuedness can depend on anything, even nationality. In fact, truth-valuedness can depend on verifiability. Consider the sentence:

(6) All assertions made by individuals who follow policy $F$ are false.

To follow policy $F$ is to assert (6) if and only if there exists at least one undecidable sentence.\(^5\) (6) will lack a truth value, if the following conditions obtain:

(6a) Epimenides asserts (6).

(6b) Epimenides follows policy $F$.

(6c) There is no assertion different from (6) which any follower of policy $F$ ever made which is true.

(6a)-(6c) merely mirror (5a)-(5c), and introduce no novelty into our discussion. However, given the details of policy $F$, we can state another sufficient condition for (6)’s lacking a truth value. These are: (6b), (6c), and

(6d) There exists an undecidable sentence.

In the case of (5), we might correctly observe that if Epimenides is a Cretan, and if everything else that Cretans ever say is false, then the truth-valuedness of (5) depends on whether or not Epimenides asserts it. In the case of (6), we might similarly say that if Epimenides follows policy $F$, and if everything else that followers of policy $F$ say is false,
then the truth-valuedness of (6) depends on whether or not there is an
undecidable sentence. If there is one such, then (6) is neither true nor
false. And from this it follows that if (6) is undecidable, then (6) is
neither true nor false.

We have obtained a counterexample to (2), not a priori, but by
assuming several empirical propositions. If (6b) and (6c) are true, then
(2) is false. I don’t think that (2) can be refuted by showing that it is
self-contradictory. Of course, if (6b) and (6c) are not true, then (2) is left
unrefuted; but we might bribe someone else to step into Epimenides’
shoes and, by his activity, refute (2). Having come this far, the impor-
tant point is not whether (2) is true or not, but rather that (2) does not
adequately characterize realism. Why can’t a realist grant that whether
a sentence has a truth value is an empirical matter, and that if empirical
matters exhibit a certain pattern, almost anything you please can affect
the truth-valuedness of a sentence? (2) does not represent realism, but
rather is a consequence of a general doctrine about the noncontingent,
logical character of a sentence’s having a truth value. It is quite correct
that if a sentence’s having a truth value is a necessary matter, then its
having a truth value does not depend on anything contingent. And
facts about our mental capacities seem to be examples of contingent
matters. One may or may not hold this view, depending on one’s
attitude towards presupposition and the liar paradox.6 But in any
event, one cannot defend (2) as an adequate characterization of what
realism is.

(1) turned out to be false because it claims that there exists some-
thing which no sentence depends on for its truth value. (2) was intro-
duced because it involves a weakening of (1). But, assuming the empiri-
cal character of truth-valuedness, (2) also is false in its claim that there is
something on which no sentence depends for its having a truth value.
Both (1) and (2) are quantified sentences of the form “there exists an x
such that for all y . . .”. Perhaps we can weaken each by reversing the
order of the quantifiers and still have something which a realist may
want to assert. The result of doing this to (1) is the assertion:

(AH) Every sentence is such that there is something on
which its truth value does not depend.

(AH) is anti-holistic; it says that true sentences are not true in virtue of
everything. Although there can be nonrealistic reasons for advocating
(AH)—for example, one might have constructivist objections to com-
pleted totalities or, for pragmatic reasons, postulate a type-theoretic
hierarchy in order to avoid the paradoxes of set theory—(AH) may be
part of the global realist’s attempt to formulate an independence claim
that is applicable to every sentence.
The kind of independence urged by (AH), as well as by (1) and (2), is not nomic or causal. A realist about physical objects might be happy to grant that mental states can exert causal influence on physical things. And if it should turn out that thinking about geometry can warp the curvature of space-time, this too need pose no problem for the realist. Causal or nomic dependence are fine; but there is another kind of dependence which the realist cannot tolerate. A realist who believes in conceptual connections might express the point this way: It is not part of the meaning or truth conditions of a particular sentence (one expressing Snell’s Law, for example) that anyone can know its truth value, or that there are minds, or that there are languages that contain particular conventions. A realist unhappy with the idea of conceptual connections might say: the nature of light is one thing, the nature and existence of thinking about light another. These two phenomena may be causally connected, but they are two parts of reality.

Local realisms—dependence claims made with respect to particular subclasses of sentences—inevitably imply that holism is false as a doctrine about the sentences considered. Frege thought that arithmetic statements are not about mental images, linguistic conventions, or physical objects, but are about abstract entities. Hence such statements are not about everything. But even if there are statements which are not about everything—as various local realisms insist—what does this tell us about (AH)? Perhaps there still are some statements which are true in virtue of everything. There may be realist arguments available for (AH), but it would be rash to infer that (AH) is true on the basis of instance confirmations supplied by various local realisms.

The possibility of stating a plausible form of global realism—a realist doctrine concerning every sentence—remains problematic. Nevertheless, there is a crucial ingredient of the realist outlook which requires systematic expression, and this is the notion of independence itself. Even if global realism is impossible, the realist will still want to make independence claims concerning large classes of sentences. We now turn to an examination of the independence relation.

3.

In discussing what arithmetic statements are about, Frege in [9] makes use of what we will call The Counterfactual Test

A sentence $S$ is about an object $o$ only if $S$ would not have had the truth value it does have, had $o$ been different in some respect.

This counterfactual test is standard fare in realist argumentation, and many opponents of realism have also used it. In [13], for example,
Heyting asserts that because mathematical statements report mental constructions, they don’t become true until they are proven (or until mechanical procedures are discovered which would allow them to be proven). Intuitionism for Heyting implies that if there were no mental activity, or if our mental activities were different in some respects, then certain arithmetic statements which are in fact true would not be true.

Frege uses the counterfactual test to spectacular effect. He disqualifies mental images, physical objects, and marks on paper from being plausible candidates for the subject matter of mathematical statements. The view that Frege rests content with is that arithmetic statements are about abstract entities. For example, he holds that

9 is an odd number

is about the number 9, which is an abstract entity. To my knowledge, Frege never shows how such things as the number 9 pass the counterfactual test, but I take it that this is required, given his negative arguments against psychologism. If “9 is odd” is to be about the number 9, it must be the case that

If the number 9 were different in some respect, then “9 is odd” would not be true.

How are we to understand this counterfactual? One way is to imagine possible ways in which 9 might have been different. This is not hard to do, since there are many properties that 9 has quite accidentally. For example, there might not have been nine planets. If 9 were different in that respect—that is, if it failed to number the planets—would this show that the above counterfactual is true? It seems not: even if there weren’t nine planets, nine would still be odd. The properties that the number nine has which we must look at are purely mathematical ones. That is, we must interpret the counterfactual as saying:

(7) If the number 9 did not have some of the mathematical properties it does have, then “9 is odd” would not be true.

According to Frege ([19]: 21), arithmetic falsehoods are unthinkable. This presumably, is consistent with their having sense and with our being able to recognize that they are false. Roughly, for Frege, a proposition is unthinkable when we cannot grasp what it would be like for it to be true. It is unclear how this doctrine would bear on the status of counterfactuals like (7). If figuring out the truth value of a counterfactual required that we conceive of a world in which the antecedent is
true, such counterfactuals as (7) could not be judged to be true. If this were right, then Frege could not say that numbers pass the counterfactual test, and hence could not claim that arithmetic statements are about these abstract entities.

If, alternatively, we ignore the epistemology of such counterfactuals, and turn to recent theories of their semantics, we are not much better off. Current theories of counterfactuals—for example those of Lewis [15] and Stalnaker [21]—count a counterfactual true if its antecedent is necessarily false. They do so because they hold that a counterfactual is false only if there is a possible world in which its antecedent is true and its consequent is false. On these accounts, (7) is true. The problem is that the following counterfactual comes out true as well:

(8) If the number 9 did not have some of the mathematical properties it does have, “9 is odd” would still be true.

Hence, current theories of counterfactuals seem to subvert Frege’s conclusion just as much as his own view of the unthinkability of logical and arithmetic falsehoods does.

Perhaps a difference between (7) and (8) can be detected if we use a concept of implication in which a logical falsehood doesn’t entail everything. A logic of relevance, of the kind developed by Anderson and Belnap [1], may perhaps be useful here, although the problem we are considering demands that the concept of relevance be purged of the epistemological content it is frequently endowed with. Van Fraassen’s [26] idea of relevant implication is appropriately nonepistemological, and its interpretation in terms of “making true” has an evident bearing on the metaphysical problem we are considering. If we used this concept of entailment and if the property of oddness were within the scope of quantification of (7) and (8), presumably (7) would come out true and (8) false, just as desired. But the question would then arise of saying which properties are to be taken into account in evaluating other counterfactuals. For suppose someone were to accept the counterfactual test as a necessary condition for aboutness, and then go on to claim that “every number has a successor” is about some mental image I once had. His defence would go like this: the truth of “every number has a successor” does depend on my mental image because, after all, if my mental image were a number without a successor, then the quoted sentence would be false. A realist interested in saving the counterfactual test from this sort of trivialization will have to make the test more precise so that the kind of argument just sketched can be blocked.

The positive side of Frege’s realism—his doctrine concerning what mathematical sentences are about—requires an account of aboutness which current theories of counterfactuals do not provide. In the face of
this, one could either give up the counterfactual test as a partial account of aboutness, or hold out for the development of some view of counterfactuals which will yield the theoretical apparatus that realism requires. In the former case, we are considerably at sea concerning how aboutness should be interpreted, and moreover have been deprived of the major argument that Frege uses against psychologism and other antirealist views. In the latter case, Frege’s approach to the issue of aboutness is taken to be on the right track, but is seen as lacking the kind of systematic articulation that such a view should possess. In either event, the realist position is not everything that it should be.

4.

To make good realism’s independence claim, one must characterize a semantical relation $R$ which sentences bear to reality. This relation must be such that not every true sentence bears $R$ to the same thing. This requirement brings with it the constraint that not every true sentence bears $R$ to everything in the domain. $R$ must have these features because for a large class of sentences, the realist wants to assert that reality is mind-independent. But since minds are at least part of reality, according to realism, some sentences will be true in virtue of nonmental phenomena while other sentences will not. This conception of the relation $R$ constitutes a weakened formulation of (AH); we have set aside the issue of whether any truth can be about everything, but the antiholistic idea that plenty of truths are true in virtue of part of what there is, without being true in virtue of everything, still survives.

It may be thought that Tarski’s theory of truth [24] provides a way of specifying the requisite relation. After all, Tarski’s theory will entail each instance of the T-schema. For example, it will imply that

“Snow is white” is true if and only if snow is white,

and this sort of connection between sentences and reality seems to be just the sort of nonholistic relation that the realist requires. This and other instances of the T-schema do not say of particular sentences that their truth or falsity depends on everything; rather, instances of the T-schema seem to suggest that a sentence’s truth or falsity depends just on part of what there is, and different sentences depend on different parts. This is just what the doctrine ordered.

However, when we turn our attention away from instances of the T-schema, and towards the formal machinery of Tarski’s theory, the hope seems to fade of discovering there an adequate nonholistic relation. The heart of Tarski’s theory is the notion of satisfaction, and Tarski’s theory amounts to a conjecture about the relation of truth to
satisfaction. His proposal is this: a sentence is true if and only if it is satisfied by all (or any) sequence; a sentence is false if it is satisfied by no sequence of objects. All true sentences are satisfied by the same thing; they are satisfied by all sequences of objects. The satisfaction relation is holistic, and therefore cannot be what the realist is looking for.

In this respect, the notion of satisfaction is like Frege’s idea of reference. It is a consequence of Frege’s theory of sense and reference [10] that if closed sentences do have referents, then all truths refer to the same thing. Frege additionally argued that all truths refer to the truth value True. The claim that closed sentences do have referents was the upshot of symmetry considerations in Frege’s theory. Parts of sentences are assigned sense and reference in accordance with certain principles of composition; the same principles could be invoked to specify what the sense and reference are of sentences themselves. Whether closed sentences do have referents, and whether the object referred to by all truths is really the truth value True, we will not discuss here. The relevant point here is that Frege’s theory of sense and reference lead him to the view that one relation between sentences and the world maps all true sentences onto the same thing. But Frege did not rest content with this relation; he introduced a notion of aboutness, which, though it found no systematic articulation in the theory of sense and reference, was absolutely crucial to his metaphysics. The notion of satisfaction requires similar supplementation, if the realist is to be able to say what realism is.

The fact that satisfaction is not the relation the realist is looking for does not imply that the dependence relation cannot be characterized within the theory of satisfaction. One plausible way in which this might be attempted would be to see which objects figure in the construction of the truth conditions of different sentences. Although “Brutus killed Caesar” is true if and only if it is satisfied by any sequence, not every sequence figures in the construction of the truth conditions of this sentence. If we formulate Tarski’s machinery so that the satisfaction conditions of atomic sentences are constructed out of the satisfaction conditions of predicates and names, then Brutus and Caesar will occupy a special place in the development of the truth conditions of “Brutus killed Caesar”. It should be possible to characterize this idea so as to mirror the nonholistic intuition that atomic sentences are about the objects named by the constants which essentially occur in them. However, what will this approach have to say concerning the subject matter of universal generalizations? Presumably, universal generalizations will be viewed as true in virtue of everything, since every object in the domain figures in the development of a universal generalization’s truth conditions. Generalizations of arithmetic therefore depend for their truth on mental images, on this view, as long as such
psychological entities are part of the domain. This is clearly unsatisfactory for the Fregean.

Introducing sortal quantifiers might appear to remedy this problem. Let arithmetic generalizations be true in virtue of each arithmetic entity, and construe psychological generalizations as making claims about that part of the domain made up of psychological entities. Frege himself might welcome this reintroduction of ontological categories into the theory of truth, but I think that the problem survives this reformulation. The mere stipulation of such quantifiers solves nothing, of course. One will immediately want to know why the truth value of a sentence depends only on a particular subset of the domain. Justifying this kind of partition will merely reintroduce the kind of counterfactual considerations that fiddling with Tarski’s apparatus was meant to avoid.

Beyond this, there may be a deeper reason why the use of sortal quantifiers within Tarski’s framework should not satisfy the realist. Frege ([17]: 65) advocated the Kantian doctrine that existence is not a property of existing things; rather, he held that existence claims are about concepts, and not about the things that fall within their scope of quantification. If there are any cases of quantified sentences which are true in virtue of things other than those within their scope of quantification, the realist cannot successfully modify Tarski’s apparatus in the way just sketched. Dretske [7] and Tooley [25] have recently argued that empirical laws of nature are about properties and theoretical magnitudes, and not about the physical objects that they quantify over. If this is right, then the objects which play a crucial role in developing the Tarskian truth conditions for laws are not always the objects which those laws are about. The truth conditions (à la Tarski) of a sentence are one thing; what makes the sentence true may be something else.

Given the problems that realism encounters in trying to avoid holism, it may seem prudent for realism to grant that a universal generalization depends for its truth value on everything in the domain and to try to carve out a distinctively realist thesis in some other way. Perhaps one should grant that physical objects, mental objects, abstract objects, and linguistic conventions alike are part of the subject matter of “every number has a successor”, since the sentence is true in virtue of the fact that each of these items is either not a number, or if it is, it has a successor. Although this suggestion perhaps makes for a neater semantics, the question arises of how the realist is to formulate his independence claim. Should he say: a generalization depends on an object for its truth value solely in virtue of the way in which the object is an instance, or fails to be an instance, of the statement? If the realist chooses this formulation, he must give some account of what is in-
cluded, and what is excluded, by the phrase “solely in virtue”. Does an object’s being an instance of a generalization depend on whether a particular instantiation of the generalization is decidable? The realist will answer no and will say that being an instance is a matter of logic alone. But spelling this out will, I expect, return us to considering how various truths (in this case, truths about implication relations) are independent of particular objects (viz., mental capacities of discovery). The problem for realism is that it is committed to there being a difference between the relation that a sentence bears to some objects and the relation it bears to others. This is just to say that the dependence relation must, for a realist, be nonholistic.

So far we have considered the question of whether the realist’s nonholistic relation $R$ can be perspicuously represented within Tarski’s formalism, and have not raised the question of whether realism might not in fact be incompatible with Tarski’s theory of truth. After noting that satisfaction is a relation between true sentences and all sequences of objects in the domain, we proceeded to ask whether $R$ might be identified with some other relation. This would be fine if we are prepared to grant that the realist theory of aboutness—of truth-in-virtue-of—can be plausibly separated from the realist theory of truth. But if realism claims that truth is correspondence with reality, and if this relation is supposed to be nonholistic, then satisfaction cannot be the realist’s correspondence relation. If this is what Tarski’s theory is, then the realist must reject it. If, on the other hand, Tarski’s theory can be plausibly interpreted so that truth is identified with some nonholistic relation, then the realist may rest content.

It is sometimes maintained that Tarski’s theory is a vindication of realism because it gives content to the notion of correspondence with reality. This suggestion is undermined, however, by the fact that an idealist might naturally accept the satisfaction apparatus and go on to assert that the domain is populated only by minds and their contents. In the light of this, one might more modestly maintain that Tarski’s theory is at least consistent with realism and that Tarski’s theory will do everything the realist requires, once the domain is shown to include extra-mental and extralinguistic entities. But I have argued that even if the domain could be shown to be populated by such items, the realist has much work to do. His correspondence relation seems to be a modal one, if the counterfactual test is to be trusted, and one well might wonder how Tarski’s extensional theory will allow the realist to represent his dependence relation. But beyond its modal character, the realist’s correspondence relation is nonholistic, and this too raises the question of whether Tarski’s theory of truth as satisfaction can be seen as a realist theory of truth as correspondence with reality.13

The line of thinking here pursued goes contrary to Davidson’s [6]
contention that the satisfaction relation is as much of a correspondence relation as anyone could plausibly demand. Davidson recognizes that Tarski's theory has the holistic character we have discussed. However, he allows that this is acceptable, since true sentences will differ from each other with respect to the ways in which their truth conditions are constructed. This observation fails to address the difficulty, however. Imagine a chemical theory of valence having the defect of saying that all elements have the same valence; it is then argued that this "holistic" feature of the theory is no defect, since different methods are used for determining the valences of different elements.

Our exploration of the realist's idea of independence also opposes the view taken by Dummett [8] that realism need have nothing to do with the idea of truth as correspondence with reality. Dummett argues that Frege successfully dispatched this idea; yet realism, for Dummett, is fundamentally a declaration of independence. Dummett's point cannot be accepted, however, if correspondence is simply the relation of dependence. The realist is obliged to do more than simply point out the things on which the semantical properties of sentences do not depend; some positive account is additionally required, and it is just here that the idea of correspondence must be articulated, not abandoned.

Realism enjoys whatever good reputation it does now because of its powerful criticisms of the competition. Idealism and verificationism have been challenged because they are supposed to be less explanatory than realism, because they rest on dubious theories of meaning, and because they reject standards of reasoning in metaphysics which seem to be quite central to the activity of science itself. In the light of this critique, our confidence in the existence of mathematical and physical objects, which are the way they are independently of our reflection on them, seems to embody a prudent and nonanthropomorphic view of the world. But the negative arguments supporting this declaration of independence are not enough; and when one turns to the realist for some positive account of the relation between reality and our conception of it, there is considerably less there than one might have hoped for.

REFERENCES

NOTES

1It will prove convenient in this paper to think of sentences as being the bearers of truth values. Although this assumption will affect our discussion of a number of issues (for example, of the liar paradox), I think that the important points would remain unaffected if the paper’s formulations were made in terms of another candidate truth value bearer.

2The formulation of realism as a view about sentences and their semantical properties is characteristic of recent discussions, such as those in Putnam [19] and Dummett [8]. Before the linguistic turn became so popular in philosophy, realism would more standardly have been advanced as a doctrine about the independent existence of objects. It may be that nothing of interest is lost by construing realism as a semantical thesis, and that something significant is thereby gained. After all, asking whether electrons exist independently of our conception of them seems to be roughly interchangeable with asking...
whether “there are electrons” is true independently of our conceptions. Admittedly, the
truth of “there are electrons” depends on language, whereas there being electrons does
not. However, realists are usually content to grant the truth of trivial semantic conven-
tionalism. But this point aside, the realist holds that our language and mental life affect
the truth value of “there are electrons” no more and no less than they affect the existence
of electrons. Semantic ascent thus appears to be an innocent device for clarification.
Moreover, there is another advantage of construing realism as a doctrine about language
and its relation to reality. Many assertions, like those found in scientific theories, do not
constitute existence claims, and yet it is perfectly appropriate to ask whether they should
be interpreted realistically. One may wish to be realistic about such assertions without
wishing to claim that there are extralinguistic objects—facts or states of affairs, for
example—which exist independently of other objects. Despite these reasons for thinking
that realism can be construed as a doctrine about beliefs or linguistic items, rather than as
a doctrine about objects, I think that it is a very real question whether semantic ascent
preserves all that is interesting in doctrines of realism, taken objectively.

For this reason, Putnam’s claim in [19], pp. 69-70, that realism is committed to the
principle of bivalence, seems overly restrictive. There seem to be a number of philo-
sophical positions which favor expanding the number of truth values, or introducing
truth value gaps, for reasons that are consistent with a realist metaphysics. Aristotle’s view
of future contingents is an example.

van Fraassen ([28]: 15), misconstrues this sentence when he claims that the as-
sumption that it is true entails that it is not true. van Fraassen, it appears, considers not
(6), but rather the sentence “A Cretan asserts (5)”. This sentence is such that if it is true,
then (6) cannot be true.

Policy F might be described more circumspectly to make it more obviously possible
that someone might follow it. For example, suppose that the policy is to assert (6) if and
only if some sentence on a given finite list is undecidable, where undecidability is given
some reasonably clear characterization. As long as (6) is on the list, the paradox can be
generated.

An argument for rejecting (2), independent of those just suggested which deal
with presupposition or the liar paradox, might be formulated by appeal to the view that
many or all sentences are indexical and that tokens of such sentences have truth values
only if the context of utterance determines the values of the relevant parameters. One
would then have to specify a sentence \( A \), one of whose implicit parameters is the
decidability or undecidability of some further contextually determined utterance, \( B \). If, in
the context, the utterance \( B \) turns out to be the utterance of \( A \), then the token of \( A \) has a
truth value only if \( A \) is decidable (or, only if \( A \) is undecidable).

It seems fairly clear that the Counterfactual Test constitutes, at best, a necessary
condition for aboutness; it isn’t sufficient. If it were, then every true sentence would be
about the language in which it is expressed, for, after all, if the sentence in question meant
something different, then it might not be true. Intuitively language is the medium of
representation of thoughts, not the subject matter of terribly many sentences. A theory of
aboutness for sentences must explain this difference, just as a theory of perception must
explain why we don’t (usually) see our own visual images, and a theory of representation
must explain why photographs are not (usually) pictures of the camera’s lens apparatus.
See Stampe’s [22] for a discussion of this and other problems of representation in a causal
context.

Frege’s other arguments against psychologism are much less impressive than the
one which relies on the counterfactual test. I discuss some of these arguments critically in
my [20].

We ignore here the fact that Tarski’s requirement of material adequacy is inap-
propriate for nonbivalent language.

It should be noted, however, that in [11], Frege rejects the correspondence theory
of truth and maintains that truth is undefinable. His arguments, whatever their merits,
seem to me to be quite consistent with that aspect of Frege’s realism which we are
exploring, namely, the idea that large classes of sentences (preeminently, those of
mathematics), are not about psychological phenomena or linguistic conventions—are not
true in virtue of these—but rather, are about, or true in virtue of, abstract entities which
exist independently of us. One might, I suppose, consistently maintain that truth is not a
relation and is not definable, and yet hold that aboutness is a definable relation. Whether it is plausible to separate issues of truth from those of aboutness is an important and complicated question which we cannot address here.

11See, for example, Frege's [9], p. 31. Notice also that this problem concerning what generalizations are about is in some ways the metaphysical or semantical analogue of the epistemological problem of determining what an instance confirmation of a generalization amounts to.

12Dretske [7] and Tooley [25] each feel obliged to choose between construing laws as being about properties and magnitudes and as being about their instances. Even if there is no reason to choose—even if laws are about both kinds of things—the objection sketched above still holds.

13Quite apart from its relation to Tarski's theory of truth, there is another difficulty that Frege's realism encounters in its efforts to avoid holism. According to the Frege-Russell definition of number, the number 9 is identical with the set of all 9-tuples. This presumably means that because a statement like “9 is an odd number” depends for its truth on the number 9, the statement must thereby depend for its truth on the set of all 9-tuples. But that set would not exist if any of its member sets did not. And the same is true of each nine-membered set: it would not exist, if any of its members did not. So “9 is an odd number” depends for its truth on each object which is a member of some set of 9-tuples. This will include physical objects, mental images, cognitive capacities, marks on paper, and linguistic conventions, if such things exist. Insofar as a realist wishes to claim that mathematical statements do not depend for their truth on these items, the Frege-Russell definition of number must appear problematic. Other definitions of number, for example the one due to Zermelo in which numbers are identified with the empty set, the set containing just the empty set, and so on, do not face this difficulty. If realism about mathematical truths is to be expressed in the form of an independence claim, it must turn out that the character of mathematical objects is independent of other things in the domain. This provides a constraint on what numbers can and cannot be identified with. In his [12], Hambourger objects to the Frege-Russell definition of number on the grounds that the identity specified by such a definition must be true in all possible worlds; although numbers exist in all possible worlds, the sets with which Frege and Russell identified the numbers do not. The argument presented above in connection with realism makes use of Hambourger's line of thinking. It is interesting that Hambourger's argument shows how a definition of number can be criticized on grounds that are not number-theoretic; this goes contrary to an implicit assumption in Benacerraf's argument [2] that numbers cannot be identical with sets.

14See, for example, Putnam's [17] and [18], and Boyd's [4] for arguments in this vein.

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