REDUCTIONISM AND ANTI-REALISM. The debate focusses on the cognitive status of the statement of
some problematic class: statements about material objects, mathematical statements, statements about
the past. Let's consider some examples. Begin with plain reductionism.   358

Example 1 (Phenomenalism). At stake is the existence of material objects ('body'). The phenomenalist wishes
to say, broadly, that bodies are nothing but sensations (experiences, sense data) of the observer. This is a view
historically associated with Berkeley. However, in Kant too we can find some striking phenomenalist sentiments:

> [t]he objects of experience are never given in themselves, but only in experience, and they do not
> exist *at all* outside it. That there could be inhabitants of the moon, even though no human being
> has ever perceived them, must of course be admitted; but this *means only* that in the possible
> progress of experience we could encounter them; for everything is actual that stands in one context
> with a perception in accordance with the laws of the empirical progression. Thus they are real
> when they stand in an empirical connection with my real consciousness, although they are not
> therefore real in themselves, i.e., outside this progress of experience. (A492-3/B521)

In modern times, logical positivists took up this view. Their motivation was verificationism and rejection of
'bad metaphysics'. When I read in Hegel a sentence like:

(Heg)   Reason is the infinite content, the very stuff of all essence and truth, which it gives to its activity to be
worked up,

I ask what it means. If it means anything at all, it must be given conditions of its verification. Since, as it seems,
there aren't any such conditions, I say that (Heg) is not merely false, but meaningless. To go back to bodies, we
transform this ontological debate into a semantic debate over the semantic status of relevant statements. So we
have:

(13-1)   There is a table in the next room iff an observer in the next room has tableish experiences.

This suggestion has a weakness: does the table go out of existence when the observer leaves? So we need a
conditional in the RHS, even better a counterfactual conditional:

(13-2)   There is a table in the next room iff had a competent observer been located in the next room, he would
have had tableish experiences.

This is a reduction: we replace a statement of the problematic class (about bodies) with a statements of the
reductive class (about experiences). As Dummett notes, it's not merely that one entails the other. It is rather   359
that the truth of one consists in, is constituted by, the truth of the other.

Example 2 (Mathematical intuitionism). Here, the problematic class consists of the mathematical statements
that ostensibly refer to mathematical objects (i.e. all math statements). The idea is to cash both mathematical
meaning and truth in terms of proof. So we have:

(13-3)   ' $2 + 2 = 4$ ' is true iff there is a proof of ' $2 + 2 = 4$ '.

As for meaning, we'll similarly say that you don't understand ' $2 + 2 = 4$ ' unless you have a proof. As Dummett
notes, the realist may have his own reduction. For example: 359f

(13-4)   ' $2 + 2 = 4$ ' is true iff the numbers 2 and 4 stand in some kind of relation R to each other (namely, there
is equinumerosity between the relevant sets).

The difference between two reductions turns on bivalence. The former essentially depends on our ability to
have (recognise) a proof. When there is no proof, we should be prepared to abandon $\ulcorner A \vee \sim A \urcorner$. The latter does
not so depend: the relation exists whether or not we recognise it as such.

Example 3 (Realism about character). What does it *mean* to say, 'Yuma is brave'? The realist appeals to truth
conditions. My understanding of this sentence consists in the ability to form an equivalence of this form:

(R)   Yuma is brave iff Yuma controls her fear of other dogs, Yuma does not run away from burglars etc.

That's the kind of sentence I encounter in the OED for an adjective 'brave'. Also, the sample sentences there
will be of this form. The anti-realist envisaged by Dummett, by contrast, links the meaning of a sentence to a
procedure by which I ascertain its truth:

(AR) Yuma is brave iff there is evidence of her controlling her fear, of not running away etc.

Now suppose that Yuma has never encountered any danger that would have demanded from her to behave bravely. Then the realist endorsing (R) says that ' Yuma is brave ' is still meaningful: after all, we are given intelligible truth conditions. Quite likely, precisely because Yuma did not encounter danger, ' Yuma is brave ' is false. That's because, as things likely stand, had Yuma encountered danger, she would have run away etc.

The anti-realist endorsing (AR) demurs. Since there is no evidence of Yuma's bravery, you can't ascertain its truth. Then you can't also assert ' Yuma is brave. ' As the anti-realist links assertibility to meaning, the ultimate conclusion is that ' Yuma is brave ' is not only truth-valueless, but meaningless.

Truth-value links. The anti-realist targets the conditions under which we recognise the meaning of a certain statement S of the problematic class. He claims that we recognise S's meaning by recognising the conditions under which we accept it as true. He also claims that no notion of truth of S can be derived from this idea that would be *independent* of those very conditions of recognition (acceptance). 362

Example 4 (Unknown math). Suppose that, for a mathematical statement $\mathfrak{S}$, no proof is available. Still, the realist insists, $\mathfrak{S}$ is either true or false. That's precisely what the anti-realist denies. Under these conditions of the absence of proof—that is, the conditions of unknowability—you can't assert the claim ' $\mathfrak{S}$ is either true or false. '

Well, whatever we say about mathematics, statements about the past are naturally attractive to the anti-realist. For, on the face of it, whatever warrant we now have for asserting a statement like ' Socrates was drinking in 399BC ', it is not the same warrant that we (or rather, Socrates or Crito) would have had in 399BC for asserting the statement about (their) present, ' Socrates is drinking now. '

But, the realist replies, this reveals the failure to appreciate the ' truth-value links ' between differently tensed statements. Let's adapt Dummett's example to our present and future: 363

Statement A ' I am in Bilkent ' [made by SB on 27th December 2024]

Statement B ' SB was in Bilkent ' [made by Donald Trump on 27th December 2025].

The realist grants to the anti-realist the meaning-theoretic claim. But he argues further that B is true precisely because A is true. That is what we understand about their relation. And it is from understanding this relation that we learn what it is for a past-tense statement to be true.

The anti-realist's reply: Well, we do have situations where there *is* a warrant to assert a past-tense statement $\mathfrak{B}$—for example, when we remember the occurrence of a certain situation in the past. Still, there is no rule to give here to correlate $\mathfrak{B}$ with a present-tense counterpart $\mathfrak{A}$. Hence there is no reduction. In any case, the notion of truth for past-tense statements that we could get in the course of our training is notion of their justifiability in the light of evidence. So we dig in our heels and simply say, truth-value links notwithstanding, the notion of truth also for the past-tense statements must be the same notion of verification. 363

The challenge for anti-realism. Hence no statement about the past has a truth value independently of our possession, current or future, of a procedure to verify it. For a statement to be true is for it to be justifiably assertible. 364

But what to do with truth-value links? Dummett's anti-realist is reluctant to dismiss them. He is willing to agree that they are basic to our understanding of past-tense statements. But then the task is: how to reconcile the existence of truth-value links and the anti-realist conception of truth? 364

The realist's concessions. The realist, as construed by Dummett, is ready to make some concessions. One of them is that, in practice, when we say something about the past or the future, we can't tell between the truth of our utterance and its correct assertibility. Still, on the other hand, we may need to incorporate past-tense *sentences* into truth-functional combinations with other sentences. Then the two concepts come apart. 365

Example 5. Consider the sentence:

(13-5) Kant cried on 1 January 1800.

The realist concedes that, normally, I would assert this sentence when I have some means to establish its truth: say, records of Kant's moods survive. For if I asserted it and then confessed my total ignorance of any evidence for its truth, then you might complain that my assertion is not a real one. Suppose, now, that I have no means to ascertain its truth. Then, according to the realist, I still should be able to assert or deny these sentences:

(i)   Either Kant cried on 1 January 1800, or he didn't.
(ii) If Kant cried on 1 January 1800, then he emitted some sounds then.
(iii) Kant cried on 1 January 1800, and Kant died on 31 December 1799.

If I am prepared to judge any of these complex sentences true/false, I should also be able to ascribe truth value to (13-5).

Remark 6. The link between assertion and the speaker's possession of evidence in its favour was originally observed by Austin. See Williamson's work for a strong claim about the link between knowledge and assertion.

TWO VERSIONS OF ANTI-REALISM. The first version is:

Local anti-realism about the past (T) Statements about the *present* are true or false independently of our knowledge of their truth values, but the statements about the past are not so.   366

Remark 7. We skip the comparison with CH.

We may describe this situation by saying that there is a class of possible histories compatible with the present. 'Compatible' means compatible with our memories and (present) historical records. For example: 367

H_1: {Socrates was vegetarian, Socrates was a philosopher, Socrates died in 399BC, … }
H_2: {Socrates consumed meat, Socrates was a philosopher, Socrates died in 399BC, … }

The statement 'Socrates was vegetarian' is true in H_1 and false in H_2. But the law of excluded middle fails for it across all possible histories (compatible with the present). The statement is neither 'absolutely true' nor 'absolutely false'.
    The second version is this:

Global anti-realism about everything (G) No statement, about the past, the present, or anything else, are true/false independently of our knowledge of its truth value.   367

As Dummett observes, *G* entails that the classical two-valued logic should be abandoned. But that is not the reason, or not the main reason, why *G* may be problematic (so Dummett). The problem is rather this: if what I say now (like the statement *A*) *is* true because there is a way to verify its truth, then what I say later on in the past tense (like the statement *B*) should also be true. Yet, by the lights of *G*, it might not be so, since the evidence won't then be available. Or in general, it is hard to give up the claim of the truth-value links in favour of *G*.   368
    The way out for a *G*-realist is to avoid saying that:

(13-6)   A past-tense statement *S* made at *t* is true at *t* only if there is at *t* some body of evidence justifying *S*.

Instead, the *G*-realist must say:

(13-7)   A past-tense statement *S* is true iff there is now evidence justifying *S*.

The truth of a past-tense statement made at *t* is related not to the evidence available at *t* (if it was indeed available), but to the present evidence (i.e. the evidence available now).   368

Example 8. We imagine a conversation of the following kind between an anti-realism and a realist:

(13-8)   a.   Antioch: SB is talking (I can hear him). So if you say later on, 'SB talked on 27th December 2024', you would be justified in saying so.

   b.   Rhea: But wait! if I say later on, 'SB talked on 27th December 2024', I might not have the evidence *then*.

   c.   Antioch: Well, as we see the things *now*, you *will* be justified in asserting that past-tense statement. Everything I can tell you, I can tell you from the *present* perspective. By the way, this is not to privilege the metaphysical status of the present *moment* itself. We don't begin with the metaphysics of presentism. Rather, I insist on the central role of the present *evidence*.

   d.   Rhea: Right, what about past-tense statements uttered *now*? What to say, now, of the statement, 'SB talked on 27th December 2023'?

   e.   Antioch: I think you have no evidence at present one way or the other. So you can't assert now, 'SB talked on 27th December 2023.'

f. Rhea: Wait a minute! Perhaps one year ago I *had* evidence of him talking, but lost/forgot it since. Still, because I had it, really, objectively so, I may be able to assert *now*, ' SB talked on 27th December 2023. '

g. Antioch: Not so. Just as before, we look at the evidence *now* available to us. So we want to say what from *our, present* point of view you can assert. Our ' now ' is not the past ' now ', so there is no difference with the previous case.

Dummett concludes that the anti-realist takes seriously the reality of time, of the ' immersion ' in time. He also, for the same reason really, believes in the reality of temporal change. Therefore, if we hold that a statement is true in virtue of some worldly fact, the worldly fact itself undergoes change. For example, if the claim of the truth-value links demands that the past-tense statement will be true *because* of some present fact, by the same token a past-tense statement is true of the present fact. All the worldly facts in virtue of which any statement may be true are *present* facts—exactly because the world really changes.

By contrast, the realist surveys the world from an atemporal perspective and doesn't acknowledge the reality of change. So for him, the truth-value links must be based on some facts frozen in time and existing in eternity.

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