

# *Word and Object* Chapter Two: A Digest

Philosophy 135

March 15, 2007

## **The indeterminacy thesis**

WO, 27: “The thesis is then this: manuals for translating one language into another can be set up in divergent ways, all compatible with the totality of speech dispositions, yet incompatible with one another.”

WO, 28: The linguist’s task in radical translation (“translation of the language of a hitherto untouched people,” without benefit of dictionaries or bilinguals): “All the objective data he has to go on are the forces that he sees impinging on the native’s surfaces and the observable behavior, vocal and otherwise, of the native.”

## **Stimulus meaning**

The definitions are in WO, 32–33:

- **affirmative stimulus meaning** of a sentence S for a speaker A: the class of all stimulations that would prompt A to assent to S
- **negative stimulus meaning** of S for A: the class of all stimulations that would prompt A to dissent from S
- **stimulus meaning** of S for A: the pair (affirmative stimulus meaning, negative stimulus meaning)
- Two sentences are **stimulus synonymous** for A if they have the same stimulus meanings. (WO, 46)
- A sentence is **stimulus-analytic** for A if A would assent to it, or nothing, after every stimulation. (WO, 55)

Notes:

1. Because speakers’ dispositions may change over time, the definitions of stimulus meaning really ought to be indexed to a time as well as a speaker (WO, 33).
2. How long is a stimulation? Quine has in mind some relatively short period, which he calls the *modulus*.
3. Why stimulations and not things? WO, 31: “Stimulation can remain the same though the rabbit be supplanted by a counterfeit. Conversely, stimulation can vary in its power to prompt assent to ‘Gavagai’ because of variations in angle, lighting, and color contrast, though the rabbit remain the same. In experimentally equating the uses of ‘Gavagai’ and ‘Rabbit’ it is stimulations that must be made to match, not animals.”

4. The word “prompt” in these definitions has causal force. The stimulation must *cause* the speaker to assent to the sentence. The hypothesis that a stimulation has prompted assent can be tested by first presenting the speaker with a different stimulation that prompts dissent, then presenting the first stimulation, and seeing if she assents. (WO, 30)
5. Thus, hypotheses about stimulus meanings are hypotheses about the agent’s *dispositions* to react to stimuli. They have the same empirical status as other dispositional hypotheses, e.g. the hypothesis that this substance will dissolve in water but not in oil.
6. These hypotheses always go beyond the evidence we have gathered. We will have only done finitely many experiments on the natives, querying them with various sentences in various situations, but our hypotheses about stimulus meanings amount to predictions about how they *would* react to any given stimulus.
7. Though there may be some uncertainty about whether we’ve got them right, Quine holds that there *are* determinate facts about stimulus meanings. He is going to argue that even though these facts are determinate, they don’t determine a unique translation manual.

### Occasion sentences

- An **occasion sentence** is a sentence “which command[s] assent or dissent only if queried after an appropriate prompting stimulation” (WO 35–6). Examples: “There’s a rabbit”, “His face is dirty”.
- A **standing sentence** is a sentence that the speaker assents or dissents from more or less independently of prompting stimulation. Examples: “I was born in New Mexico”, “The semester has begun”.

To some extent this is a difference in degree: if we increase the modulus, a standing sentence can become an occasion sentence.

Stimulus meaning comes closer to meaning in the intuitive sense for occasion sentences than for standing sentences. There are unlikely to be great differences in stimulus meaning between “Red is a color” and “2+2=4” for most speakers, yet they have different meanings.

Even in the case of occasion sentences, though, stimulus meaning does not precisely capture meaning in the ordinary, intuitive sense. For some nice examples, see WO 37–8. The problem is that “an informant’s assent to or dissent from ‘Gavagai?’ can depend excessively on prior collateral information,” that is, on what the speaker knows about the world. For example, if the speaker knows that a certain kind of fly accompanies rabbits, she may assent to ‘Gavagai?’ when only these flies are visible.

WO 39–40: “We have now seen that stimulus meaning as defined falls short in various ways of one’s intuitive demands on ‘meaning’ as undefined, and that sameness of stimulus meaning is too strict a relation to expect between a native occasion sentence and its translation—even in so benign a case as ‘Gavagai’ and ‘Rabbit’. Yet stimulus meaning, by whatever name, may be properly looked upon still as the objective reality that the linguist has to probe when he undertakes radical translation. For the stimulus meaning of an occasion sentence is by definition the native’s total battery of present dispositions to be prompted to assent to or to dissent from the sentence; and these dispositions are just what the linguist has to sample and estimate. We do best to revise not by identify of stimulus meanings, but by significant approximation of stimulus meanings.”

So, going on stimulus meanings, we can translate occasion sentences, correlating ‘Gavagai’ with ‘Rabbit’, for example. But that doesn’t help with standing sentences. WO, 46: “Translation of ‘Soltero’ as ‘Bachelor’ manifestly cannot be predicated on identity of stimulus meanings between speakers; nor can synonymy of ‘Bachelor’ and ‘Unmarried man’.” (Can you explain why not? Is the situation different if we restrict ourselves to a single speaker?)

## Truth-functional connectives

WO, 57: “The semantic criterion of negation is that it turns any short sentence to which one will assent into a sentence from which one will dissent, and vice versa. That of conjunction is that it produces compounds to which (so long as the component sentences are short) one is prepared to assent always and only when one is prepared to assent to each component.”

WO, 58: “This approach ill accords with a doctrine of ‘prelogical mentality.’ To take the extreme case, let us suppose that certain natives are said to accept as true certain sentences translatable in the form ‘p and not p’. Now this claim is absurd under our semantic criteria. And, not to be dogmatic about them, what criteria might one prefer? Wanton translation can make natives sound as queer as one pleases. Better translation imposes our logic upon them, and would beg the question of prelogicality if there were a question to beg.”

This approach won’t help, though, with devices of quantification (‘all’, ‘some’, ‘most’, ‘two’) or identity. See below. WO, 61: “Of what we think of as logic, the truth-functional part is the only part the recognition of which, in a foreign language, we seem to be able to pin down to behavioral criteria.”

## Translating words

At this point, we only have correlations at the level of whole sentences. Quine argues that these correlations are compatible with many different ways of translating individual words.

WO, 51: “Stimulus synonymy of the occasion sentences ‘Gavagai’ and ‘Rabbit’ do not even guarantee that ‘gavagai’ and ‘rabbit’ are coextensive terms, terms true of the same things.”

Note: ‘Rabbit’ is a “one-word sentence”, equivalent to ‘There’s a rabbit’. ‘rabbit’ is a word, a part of a sentence. Quine uses capitalization to distinguish these. WO, 52: “. . . the occasion sentence ‘Gavagai’ is translatable as saying that a rabbit is there, even if no part of ‘Gavagai’ nor anything at all in the native language quite corresponds to the term ‘rabbit’. Synonymy of ‘Gavagai’ and ‘Rabbit’ as sentences turns on considerations of prompted assent; not so synonymy of them as terms. We are right to right ‘Rabbit’, instead of ‘rabbit’, as a signal that we are considering it in relation to what is synonymous with it as a sentence and not in relation to what is synonymous with it as a term.”

Some options for translating ‘gavagai’, all compatible with the stimulus synonymy of ‘Gavagai’ and ‘Rabbit’:

1. gavagai = rabbit
2. gavagai = one-second rabbit stage
3. gavagai = undetached rabbit part
4. gavagai = the mereological fusion of all rabbits
5. gavagai = rabbithood

Pointing won’t help to choose between them. WO, 52–3: “Point to a rabbit and you have pointed to a stage of a rabbit, to an integral part of a rabbit, to the rabbit fusion, and to where rabbithood is manifested. Point to an integral part of a rabbit and you have pointed again to the remaining four sorts of things; and so on. Nothing not distinguished in stimulus meaning itself is to be distinguished by pointing, unless the pointing is accompanied by questions of identity and diversity: ‘Is this the same gavagai as that?’, ‘Do we have here one gavagai or two?’. Such questioning requires of a linguist a command of the native language far beyond anything that we have as yet seen how to account for.”

WO, 54: “We could equate a native expression with any of the disparate English terms ‘rabbit’, ‘rabbit stage’, ‘undetached rabbit part’, etc., and still, by compensatorily juggling the translation of numerical identity and associated particles, preserve conformity to stimulus meanings of occasion sentences.”

WO, 72: “If by analytical hypotheses we take ‘are the same’ as translation of some construction in the jungle language, we may proceed on that basis to question our informant about sameness of gavagais from occasion to occasion and so conclude that gavagais are rabbits and not stages. But if instead we take ‘are stages of the same animal’ as translation of that jungle construction, we will conclude from the same subsequent questioning of our informant that gavagais are rabbit stages.”

## Analytical hypotheses

When Quine says that hypotheses (1)-(5) above are all compatible with the behavioral evidence, what does he mean? This is explained at the beginning of section 15, “Analytical Hypotheses” (WO 68):

We have had our linguist observing native utterances and their circumstances passively, to begin with, and then selectively querying native sentences for assent and dissent under varying circumstances. Let us sum up the possible yield of such methods. (1) Observation sentences can be translated. There is uncertainty, but the situation is the normal inductive one. (2) Truth functions can be translated. (3) Stimulus-analytic sentences can be recognized. So can the sentences of the opposite type, the “stimulus-contradictory” sentences, which command irreversible dissent. (4) Questions of intrasubjective stimulus synonymy of native occasion sentences even of non-observational kind can be settled if raised, but the sentences cannot be translated.

And how does the linguist pass these bounds? In broad outline as follows. He segments heard utterances into conveniently short recurrent parts, and thus compiles a list of native “words.” Various of these he hypothetically equates to English words and phrases, in such a way as to conform to (1)-(4). Such are his *analytical hypotheses*, as I call them. Their conformity to (1)-(4) is ideally as follows. The sentence translations derivable from the analytical hypotheses are to include those already established under (1); they are to fit the prior translation of truth functions, as of (2); they are to carry sentences that are stimulus-analytic or stimulus-contradictory, according to (3), into English sentences that are likewise stimulus-analytic or stimulus-contradictory; and they are to carry sentence pairs that are stimulus-synonymous, according to (4), into English sentences that are likewise stimulus-synonymous.

To a certain extent, Quine allows tradeoffs between satisfying these criteria and simplicity. WO, 69: “Tolerance is bound to have been exercised if a native sentence, believed by the whole community with a firmness that no stimulus pattern of reasonable duration would suffice to shake, is translated as ‘All rabbits are men reincarnate’. To translate a stimulus-analytic native sentence thus into an English sentence that is not stimulus-analytic is to invoke translator’s license. I think this account gives such a translation quite the proper air: that of a bold departure, to be adopted only if its avoidance would seem to call for much more complicated analytical hypotheses. For certainly, the more absurd or exotic the beliefs imputed to a people, the more suspicious we are entitled to be of the translations. . . .”

Note also that Quine allows analytical hypotheses that are not of “equational form”: that is, hypotheses that recommend translating a word one way in one context, another way in another (WO 69).

WO, 70: “From the point of view of a theory of translational meaning the most notable thing about the analytical hypotheses is that they exceed anything implicit in any native’s dispositions to speech behavior.”

WO, 74: "...if a question were to arise over equating a short native locution to 'rabbit' and a long one to 'rabbit part' or vice versa, [linguists] would favor the former course, arguing that the more conspicuously segregated wholes are likelier to bear the simpler terms. Such an implicit canon is all very well, unless mistaken for a substantive law of speech behavior."

## **What about bilinguals?**

It is often thought that the existence of bilinguals refutes Quine's indeterminacy thesis. What does Quine say about bilinguals?

WO, 71: "A linguist can broaden his base, as remarked in §11, by becoming bilingual. Point (1) is thereupon extended to this: (1') All occasion sentences can be translated. Point (4) drops as superfluous. [Here Quine is talking about the long quote from WO 68, above.] But even our bilingual, when he brings off translations not allowed for under (1')-(3), must do so by essentially the method of analytical hypotheses, however unconscious. Thus suppose, unrealistically to begin with, that in learning the native language he had been able to simulate the infantile situation to the extent of keeping his past knowledge of languages out of account. Then, when as a bilingual he finally turns to his project of a jungle-to-English manual, he will have to project analytical hypotheses much as if his English personality were the linguist and his jungle personality the informant; the differences are just that he can introspect his experiments instead of staging them, that he has his notable inside track on non-observational occasion sentences, and that he will tend to feel his analytical hypotheses as obvious analogies when he is aware of them at all. Now of course the truth is that we would not have strictly simulated the infantile situation in learning the native language, but would have helped himself with analytical hypotheses all along the way; thus the elements of the situation would in practice be pretty inextricably scrambled. What with his circumstance and the fugitive nature of introspective method, we have been better off theorizing about meaning from the more primitive paradigm: that of the linguist who deals observably with the native informant as live collaborator rather than first ingesting him."

WO, 74: "A fourth and major cause of failure to appreciate the point is a stubborn feeling that a true bilingual surely is in a position to make uniquely right correlations of sentences generally between his languages. This feeling is fostered by an uncritical mentalistic theory of ideas: each sentence and its admissible translations express an identical idea in the bilingual's mind. The feeling can also survive rejection of ideas: one can protest still that the sentence and its translations all correspond to some identical even though unknown neural condition in the bilingual. Now let us grant that; it is only to say that the bilingual has his own private semantic correlation—in effect his private implicit system of analytical hypotheses—and that it is somehow in his nerves. My point remains; for my point is then that another bilingual could have a semantic correlation incompatible with the first bilingual's without deviating from the first bilingual in his speech dispositions within either language, except in his dispositions to translate."

And Quine doesn't think indeterminacy is limited to translation of foreign languages! WO, 78: "Our advantage with a compatriot is that with little deviation the automatic or homophonic hypothesis of translation fills the bill. If we were perverse and ingenious we could scorn that hypothesis and devise other analytical hypotheses that would attribute unimagined views to our compatriot, while conforming to all his dispositions to verbal response to all possible stimulations. Thinking in terms of radical translation of exotic languages has helped make factors vivid, but the main lesson to be derived concerns the empirical slack in our own beliefs. For our own views could be revised into those attributed to the compatriot in the practical joke imagined; no conflicts with experience could ever supervene, except such as would attend our present sensible views as well."

*Homophonic* translation is translation of another speaker's sentence by the same sentence of your language.

## **From underdetermination to indeterminacy**

WO, 73: “The point is not that we cannot be sure whether the analytical hypothesis is right, but that there is not even, as there was in the case of ‘Gavagai’, an objective matter to be right or wrong about.”

WO, 26: “A first uncritical way of picturing this scope for empirically unconditioned variation is as follows: two men could be just alike in all their dispositions to verbal behavior under all possible sensory stimulations, and yet the meanings or ideas expressed in their identically triggered and identically sounded utterances could diverge radically, for the two men, in a wide range of cases. To put the matter thus invites, however, the charge of meaninglessness: one may protest that a distinction of meaning unreflected in the totality of dispositions to verbal behavior is a distinction without a difference.”

WO, 79: “. . . if two speakers match in all dispositions to verbal behavior there is no sense in imagining semantic differences between them.”

WO, 78: “. . . one may protest that two systems of analytical hypotheses are, as wholes, equivalent so long as no verbal behavior makes any difference between them; and, if they offer seemingly discrepant English translations, one may again argue that the apparent conflict is a conflict only of parts seen out of context. Now this account is fair enough, apart from its glibness on the topic of meaning; and it helps to make the principle of indeterminacy of translation less surprising. When two systems of analytical hypotheses fit the totality of verbal dispositions to perfection and yet conflict in their translations of certain sentences, the conflict is precisely a conflict of parts seen without the wholes. The principle of indeterminacy of translation requires notice just because translation proceeds little by little and sentences are thought of as conveying meanings severally.”

*Theories and Things*, 23: “. . . when I say there is no fact of the matter as regards, say, the two rival manuals of translation, what I mean is that both manuals are compatible with all the same distributions of states and relations over elementary particles. In a word, they are physically equivalent.”

*The Pursuit of Truth*, 37–8: “I hold. . . that the behaviorist approach is mandatory. In psychology one may or may not be a behaviorist, but in linguistics one has no choice. Each of us learns his language by observing other people’s verbal behavior and having his own faltering verbal behavior observed and reinforced or corrected by others. We depend strictly on overt behavior in observable situations. As long as our command of our language fits all external checkpoints, where our utterance or our reaction to someone’s utterance can be appraised in the light of some shared situation, so long all is well. Our mental life between checkpoints is indifferent to our rating as a master of the language. There is nothing in linguistic meaning beyond what is to be gleaned from overt behavior in observable circumstances.”