set of birth certificates now appears fraudulent: we cannot say that *There being rabbits* is what we believe when we believe that there are rabbits; nor will B, which is defined in terms of these locutions, be of any help. Similar problems arise for many theories which, like Chisholm's, analyze propositional attitudes by introducing a new kind of entity—Frege's theory is one example. I believe some of these theories can be defended, and I have some ideas about what the defense would involve; I shall, however bring this paper to a close by recapitulating my conclusions. Much as indeterminacy of translation has to teach us about reference and belief, it tells us little about the logical form of sentences about reference and belief; we may still speak of reference as a relation between words and objects; we may still speak of belief as a relation between people and propositions. What indeterminacy of translation shows is how arbitrary our choice of such relations is, and perhaps must be.

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DENYING THE DOCTRINE AND CHANGING THE SUBJECT*

Quine has suggested that the disagreement between two men when one subscribes to the classical logic of truth functions and quantification and the other does not, is only apparent. They are talking at cross purposes, since they do not mean the same by the logical terms: "Here, evidently, is the deviant logician's predicament: when he tries to deny the doctrine he only changes the subject." I shall argue that this is wrong, and reflects a mistaken view of what it is to understand what someone says. I shall first give an uncharitable exposition and criticism of what Quine says, and then try to put my criticisms in a more general perspective. I call my exposition "uncharitable" because the only passages of Quine I cite seem to express the view which I consider false. Other passages can be read more charitably; I shall ignore them, since I think that the view I attack is an important one, which receives its best defense in the passages I refer to.

Quine holds that someone who maintains a "deviant logic" cannot mean what we normally do by the logical terms 'and', 'or',

* I have borrowed several ideas from Richard Grandy's unpublished writings on translation and meaning.
'not', 'there is' and so on. That is, no acceptable translation can translate these words as used by him into the same words as used by us. Moreover, no acceptable translation can represent someone who does not speak English as maintaining a deviant logic. To argue for this it is necessary first to explain what it is to hold a deviant logic and then to state suitable plausible constraints on translation. Quine wants to do both of these in terms of the semantical apparatus developed in *Word and Object*, and thus in terms of the dispositions of speakers of a language to assent and dissent to sentences of that language under various circumstances. Quine's fullest description of his attitude to logical deviance is found in chapter VI of his *Philosophy of Logic* to which I shall refer almost exclusively.

It is not at all clear what Quine intends the words 'deviant logic' to cover. Sometimes he characterizes the deviant logician as asserting the negation of some classically valid sentence. But he also claims that his arguments apply to intuitionists and others whose deviance leads them to refrain from asserting certain classical theorems, but does not necessarily lead them to deny any of them. The intuitionists' rejection of the law of excluded middle, for example, does not consist in accepting sentences of the form 'not(s or not s)' but rather in failing to accept sentences of the form 's or not s'. In fact, in the intuitionistic propositional calculus 'not not(s or not s)' is a theorem; so an intuitionist cannot deny the law of excluded middle if to do this is to assert the negation of an instance of it.

A more direct confrontation between intuitionist and classicist arises in second-order logic, because the intuitionist will regard some sentences of roughly the form 'For all attributes P and all x, x is P or x is not P' as actually false [although he will not regard the corresponding 'for some attribute P and some x, not(x is P or x is not P)' as true.] This is not much help, however, in considering whether the intuitionist means something different by 'or' and 'not', since a much more natural reaction is that the meaning of 'attribute' (in 'for all attributes P') has changed.

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1 Perhaps it should be "what orthodox logicians normally do," lest we beg any questions about how closely the standard calculus fits the meaning of the English particles. Quine evades these questions, and if what I argue for is right they are not crucial.

2 *Philosophy of Logic* (Englewood Cliffs, N.J.: Prentice-Hall, 1970); see especially pp. 82/3. Unless otherwise indicated, all references are to this book. Quine has held the view in question since at least 1954, since it appears very explicitly in "Carnap and Logical Truth"; see p. 102 of *The Ways of Paradox* (New York: Random House, 1966).

3 This is a special case of something more general. See S. C. Kleene: *Introduction to Metamathematics* (New York: Van Nostrand, 1952), § 81.
I think that Quine has just not taken into account the fact that one can abandon classical logic by refusing to assent to or use some classical theorems, without having to deny any classical theorems. Let us legalize the distinction in question by talking of strong and weak deviance. Strong deviance consists in adopting a logic according to which the negation of some classical theorem is consistent, and weak deviance consists in adopting a logic according to which some classical theorem is not valid. As a first try at putting these definitions in Quine's terminology, we could say that someone exhibits strong deviance if he assents to the negation of some classical theorem, and exhibits weak deviance if he fails to assent to some classical theorem. But these would not be very useful definitions, since even the least deviant of us will assent to the negations of some classical theorems, not seeing that they are such, and we all will fail to assent to a great number of classical theorems that are too complex for us to have any opinion about. The straightforward way to take care of this is to define strong deviance as assent to the negation of a classical theorem, which cannot be shaken by presentation of any further arguments, and weak deviance as failure to assent to some classical theorem even in the presence of arguments. By 'arguments' we may for our purposes understand "further things said."

Now what is Quine saying about deviance, weak or strong? His discussion turns on the claim that the classical logical truths are all "obvious, actually or potentially." Each logical truth is either immediately or with a little coaxing assented to by each speaker of our language. Then he argues that the maxim 'save the obvious', to the effect that a translation should preserve obviousness, ensures that one could not intelligibly "reject part of our logic as not true at all." His claim is not that we could not adopt a deviant logic, or even that in all circumstances we should not, but that, if someone did, for example, come to assent to some sentence 'p and not p' then

... surely the notation ceased to be recognizable as negation when they took to regarding some conjunctions of the form 'p\cdot\neg p' as true, and stopped regarding such sentences as implying all others (81).

My understanding of this argument is hampered by not knowing in which of three ways the maxim 'save the obvious' is to be taken.

(a) If an English sentence is obvious, translate it only by a foreign sentence that is assented to. (If obvious in English, then assented to in Foreign.)
or (b) If a foreign sentence is obvious, translate it only by an

4 Quine and I have evidently moved in different native-speaker circles.
English sentence that is assented to. (If obvious in Foreign, then assented to in English.)
or (c) Do not translate as an obvious falsehood what foreign speakers regard as true. (If assented to in Foreign, then not obviously false in English.)

(a), (b), and (c) are not equivalent. To think that they are is to make fundamentally the same mistake as that which results in confusing strong and weak deviance.

It is not evident from the text which Quine has in mind. Both (a) and (b) are found in the text. (a) is supported by the paragraph:

The canon 'save the obvious; bars any manual that would represent the foreigners as contradicting our logic . . . What is negative about this guarantee is that it does not assume that all our logically true sentences carry over into truths of the foreign language; some of them might resist translation altogether (83).

(b) is supported by the sentence:

It behooves us, in construing a strange language, to make the obvious sentences go over into English sentences that are true and, preferably, also obvious (82).

(c) is nowhere explicit in the text. It was suggested to me by Paul Benacerraf. Quine gives no indication of knowing that (a) and (b) are different.

Do (a), (b), or (c) outlaw deviance? First consider strong deviance. Suppose that we are trying to show that it is illegitimate to construe the foreigners as assenting to some explicit contradiction, that is, we are trying to rule out a translation scheme that translates some assented-to foreign sentence as \( p \) and not \( \neg p \). To apply (a) we would have to reason as follows: let the foreign sentence be \( f \); \( f \) is assented to, therefore \( \neg f \) is not assented to; but the translation of \( \neg f \) into English is \( \neg (p \) and not \( \neg p ) \), since we are assuming that the translation correlates Foreign and English "negation." 'Not \( (p \) and not \( \neg p ) \)' is an obvious English sentence, and so (a) has been violated. But this is not a good argument. The first step of the argument, "\( f \) is assented to, therefore \( \neg f \) is not assented to," is not at all plausible. The view to be refuted was that our foreigners assent to \( p \) and not \( \neg p \), i.e., explicitly contradict themselves; but, if they do that, then there is no reason to believe that they do not assent both to some sentences and to their negations.

Next try (b). It is hard to see how it could apply, for the conditions of our story are just that the foreigners assent to some sen-
tence translated as a contradiction. They do not have to find it obvious. Thus (b) is beside the point.

(c) applies. The foreign sentence is assented to, but the negation of its English translation is obvious. So perhaps (c) is what is needed, although it is not mentioned by Quine. But (c) has no power against weak deviance. It would not, for example, ensure that the foreigners assent to the translation of ‘\( p \text{ or not } p \)’. (a) works against weak deviance; I think that I need not explain how. (b) clearly does not.

So the interesting maxims are (a) and (c). A principle that applies both to weak and to strong deviance—and I think that is what Quine is after—must be fairly broad. The conjunction of (a) and (c) would do, and in fact it seems clear that any principle that ensures that all obvious English sentences and no negations of obvious English sentences are assented to in Foreign will entail both (a) and (c).

If one sees the conjunction of (a) and (c) as what it claims to be, a completely general condition on the acceptability of translations, then it is not at all plausible. Each of the conjuncts alone would require some effort to believe. (a) denies that some things are obvious to us, such as ‘pregnancy is caused by copulation’, or ‘the stars are farther away than the sun’, which would not be assented to by speakers of some foreign language. (Remember that ‘obvious’ here means ‘unhesitatingly assented to’.) (c) denies that there are languages and cultures, including past stages of our own language and culture, in which obvious falsehoods, as we see them now, such as ‘the earth is flat’, ‘pregnancy is not caused by copulation’, are assented to.\(^6\) Now it may seem that change of logic involves a far more extravagant violation of (a) and (c) than that involved in the cases I have just mentioned, since when logic changes a very great number of obvious sentences are denied, or a very great number of obvious falsehoods come to be asserted. But so it is with any change of doctrine; for, if I come to deny ‘\( t \)’, I come to deny ‘\( t \text{ and } s_1 \)’ and ‘\( t \text{ and } s_2 \)’ and so on, whatever \( s_1 \) and \( s_2 \) and so on are.

But suppose that, for the sake of argument, we grant Quine what he needs in the way of a constraint on translation, along the lines

\(^6\) (a) and (c) also go against the spirit of a number of passages in Quine’s earlier writings, e.g., “Judged in another conceptual scheme, an ontological statement which is axiomatic to McX’s mind may, with equal immediacy and triviality, be adjudged false” [“On What There Is” in *From a Logical Point of View* (New York: Harper, 1963)]; and “One man’s antinomy is another man’s falsidical paradox, give or take a couple of thousand years” (*The Ways of Paradox*).
of (a) and (c). It follows that we cannot, while meaning what we mean now by our words, deny or even cease to assent to any orthodox logical truth. This may seem like a fairly strong conclusion, but I don’t think it has nearly the momentum it is intended to have.

The reason is that the thesis in question concerns only that part of an alien or a future language which is the image of some translation from and to present-day English. Suppose that at some time in the future we add to English some predicate not now found in it, probably with a highly theoretical content, and then assert some contravalid quantificational sentences involving this new predicate, and make unorthodox deduction from these and other sentences involving the predicate. Surely in this case a change of logic has occurred. And yet we cannot apply Quine’s analysis in order to conclude that some logical terms have changed in meaning; for all English sentences are translatable into Newspeak (their translations being themselves) and, we may suppose, the ill-mannered new sentences are simply not translatable into old English. The new predicate might, for example, be a truth predicate for present-day English.

There seem to be serious difficulties with Quine’s argument. I think he has chosen the wrong devices for dealing with semantical issues about change of logic. I now try to say why I think so.

Contrast two sorts of case. (a) In one Montana dialect (that spoken by my colleague Clark Glymour) ‘or’ has an amazing similarity to ‘and’ as used by the rest of us. A Montanan who speaks this dialect will say “Butte is in Montana or Missoula is too”, and infers ‘B’ from ‘A or B’. (b) Intuitionists, let us falsely suppose, are a community of Dutchmen who not only subscribe to the intuitionistic account of the foundations of mathematics and the consequent strictures on acceptable mathematical reasoning, but also employ only intuitionistic modes of argument in everyday life and science.

One’s inclination is surely to call the Montana ‘or’ ‘Montana conjunction’ and to identify it with the ordinary English ‘and’. But my inclination, which is certainly reflected in a fairly standard usage, is to call ‘or’ and ‘not’ (or rather their Dutch equivalents) as used by the imaginary intuitionists ‘intuitionistic disjunction’ and ‘intuitionistic negation’, and compare them with ‘or’ and ‘not’ as used in classical logic or ordinary English. The Montana case, and others like it, is perfectly straightforward, and what Quine would say about it is clearly appropriate: by ‘or’ they mean ‘and’, and anyone who says that they have instead an exotic theory of
Disjunction is simply imagining mysteries. On the other hand, there are reasons for calling the intuitionistic ‘or’ and ‘not’ disjunction and negation. Let me try to explain them.

There are three salient features of the situation. The first is that there is a core of inferences that are common to both classical and intuitionistic logic. In each case ‘p’ is entailed by ‘p and q’ and entails ‘not not p’. The second is that there are no end of ordinary assertions and reactions that will reveal no difference between these mythical intuitionists and other folk, if their disjunction and negation are taken as disjunction and negation. (This is true of real intuitionists too.) And the third is that the intuitionists’ deviance is occasioned by their acceptance of a certain reaction to some features of the crises in the foundations of mathematics in the early years of the century; their science developed in a methodical way from a position originally like ours. The Montanans exhibit none of these three features if their ‘or’ is taken as ‘or’, and exhibit all three of them if it is taken as ‘and’.

Each of these three features needs some qualification if, as I intend, they are to be used as marks of the sort of case in which we should not try to translate away deviance. With regard to the first, there is no core of inferences which a connective must exhibit to be compared with, say, negation; all that is necessary is that in each case there be a fairly large common set of inferences. With regard to the second, there seems to be no need to take any particular area of discourse as that of the ordinary talk where we see eye to eye; quantum mechanics would be as suitable as field zoology. And, with regard to the third, it does not seem important that the theoretical situation taken as lying at the root of the deviance be in fact the historical origin of their divergence from our ways; all that seems necessary is that there be a connection that we can follow (though not necessarily agree with) between the ordinary part and the extraordinary part of their doctrine.

Thus qualified, the third feature underlies the other two. For each of the first two describes a particular way in which, according to a translation, a common ground can be found between the alien and the home tradition, from which different routes lead to each. I think that when this condition is met the disagreement between the deviant and the conventional logician is not just apparent. This conclusion seems to me to have the support of common sense. For it seems in accordance with the common wisdom that people are not talking at cross purposes when they can, at least potentially, isolate a source of their disagreement, to which they can go back
and try to see each other's attitude. Put differently, using a translation that meets this condition allows the scientific enterprise to proceed to the benefit of both parties. And what more is needed to make a translation acceptable?

This condition is clearly vague, and I would not expect much to be gained by trying to make it less so. Rather, we should construct precise versions of it as we need them when trying to say the right thing about the peculiarities of individual cases.

Sometimes, then, an acceptable translation that takes the deviant logician's logical particles to ours does not translate away his deviance. When such a translation is acceptable, it will be possible to provide a gloss to accompany it which explains why the deviant deviates. The translation alone does not give one all one needs to understand what the foreign speaker is saying. But a translation rarely can do that.

Other translations may also be acceptable, and some of them may reduce the deviance more than others. There may be situations in which it would be more helpful to use one translation rather than another, but it will rarely be as helpful to provide any translation without a gloss as to provide both translation and gloss. And once one has the gloss the choice of a translation is less crucial.

Does all this show that one can deny the doctrine without changing the subject? I think it does. For we have described how one can understand what someone who employs different logical principles is saying, while translating his logical words by one's own. One disagrees with him, in that he denies or fails to hold some logical principle that one holds. The disagreement is meaningful; one knows what he is saying and would not say it oneself. One's knowledge of what he is saying does not consist in knowing that what he says means the same as some English sentence. I would argue that one's knowledge of what a man is saying never consists just in this. One's knowledge of what someone is saying, what his words mean, is not given by any translation alone. It is given by a translation together with an explanation of why he says what he does.

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6 Other translations may, in the case of the intuitionists, be obtained from possible-worlds semantics for intuitionistic logic or from modelings of intuitionistic idioms in recursive-function theory. The latter is hard to apply except when the subject matter is explicitly mathematical, and the former has the drawback of adding a gratuitous ontological claim to what the intuitionist says.