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SWITCHED-WORDS SKEPTICISM: A CASE STUDY IN SEMANTICAL ANTI-SKEPTICAL ARGUMENT

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1. INTRODUCTION

Suppose we took a formulation of our theory of physics, and inter-substituted ‘electron’ and ‘molecule’ at every occurrence. The resulting formulation would seem, on its face at least, to express a theory that was flatly incompatible with our standard theory: while we believe that molecules are larger than electrons, the rival theory would seem to say the opposite. However, the alternative theory also seems to be, in a natural sense, empirically equivalent to the standard theory. Its “electrons” would play exactly the same role in explaining and predicting observations that molecules play on the standard theory, and the rival theory's “molecules” would act just as we believe electrons to act. It follows, says the skeptic, that we have no good reason to prefer our theory to the alternative; and thus no good reason to believe, e.g., that molecules are bigger than electrons.

This skeptical problem is an example of what I will call “switched-words” skepticism. A prominent skeptical strategem, one that has been studied by philosophers from Poincaré to the present, is to ensure that the alternative theory is empirically equivalent to the standard one by making the alternative theory structurally similar to the standard one. Clearly, the switched-words skeptic, in constructing her alternative theory, is employing this stratagem in the limiting case.

Skeptical problems of this sort often elicit the feeling that there must be some quick, clear and decisive way of dismissing the skeptic's challenge — if only because she has done so little work in concocting her alternative hypothesis! Switched-words hypotheses have even been cited as paradigmatic examples of uninteresting or trivial skeptical problems, to be dismissed out of hand. Nevertheless, to call a skeptical challenge “trivial” is not to answer it; and, as we shall see, the reasons...
that have actually been cited for dismissing such challenges have been almost uniformly bad.

In fact, the alternative theory the switched-words skeptic employs is, in some ways, particularly difficult to dismiss. Purported examples of empirically equivalent theories are often dismissed by invoking traditional canons of scientific method. In this case, however, we cannot dismiss the skeptic’s alternative as being (relatively) deficient in simplicity, or ontological economy, or predictive or explanatory power; the two theories are just too similar in these respects. In this way, at least, switched-words skepticism seems peculiarly hard to refute.

If this skeptical strategy were generally successful, all theoretical science would be in deep epistemological trouble, for it is obvious that switched-words hypotheses are instantly constructable in any scientific theory. And the strategy is not limited to theoretical science, as is shown by an example from an oft-cited paper of N. L. Wilson: Suppose we were to take a true historical description of the world, Wilson asks, and intersubstitute the names ‘Mark Anthony’ and ‘Julius Caesar’ at each occurrence. The resulting description would seem to describe a possible world quite different from our own; one in which, for instance, Mark Anthony was addressed as ‘Caesar’ and assassinated on the Ides of March, and in which Julius Caesar delivered a funeral oration shortly thereafter. But it also seems that such a world would appear just the same (to us) as the actual world. What reason, then, do we have for believing that ours is not the world described by the switched-words alternative description? This problem is about our knowledge of certain historical individuals, rather than about our knowledge of certain theoretical kinds. But it is obvious that the skeptical strategy employed is essentially similar. And both examples elicit a strong intuition that is characteristic for switched-words skeptical puzzles.

The intuition is that the skeptic’s challenge involves some sort of linguistic trick, and that our response to her should turn on semantical considerations. Semantical responses to skeptics have attracted quite a bit of attention lately (particularly Putnam’s semantically-based refutation of the suggestion that we could all be brains in a certain kind of vat). But switched-words problems seem particularly to cry out for this sort of treatment. For this reason, they provide an ideal laboratory for
isolating and studying semantical responses to skepticism; they present a context where such responses should thrive, if they are at all viable.

I will begin by examining the strategy that has been typically used for dismissing switched-words skeptics: claiming that the skeptic's hypothesis must be seen as semantically equivalent to the standard one. This strategy, while quick and initially attractive, turns out to collapse completely on closer examination. I will then go on to argue that we nevertheless can (at least most of the time) answer the switched-words skeptic in a way that stands up to careful scrutiny. Our answers, though quite different from the ones standardly offered, will be semantical in nature. A clear understanding of the structure of these answers provides a framework for understanding how semantical anti-skeptical arguments work in general, a framework which throws an interesting light on the interrelations between semantics and epistemology. Finally, although these semantical arguments are crucial in answering certain otherwise intractable forms of skepticism, we will see clearly why they can never provide us with general relief from skepticism based on Cartesian demons or computerized vats.

2. THE CO-OPTIONIST STRATEGY

Both Quine and Wilson use the same semantical strategy for dismissing the skeptical problems described above. In fact, this strategy, which I will call "co-optionist," has represented by far the main strand of semantical anti-skepticism since positivist times. The basic idea behind the co-optionist strategy is simple. In order to generate an epistemological problem, any skeptic must show not only that her alternative theory is empirically equivalent to the standard theory, but also that it is incompatible with the standard theory. If the skeptic cannot show this, then we need no reason to choose between the theories. The co-optionist attacks the skeptic's position at just this point. The skeptic's "alternative" theory, he says, is nothing but the standard theory all over again, albeit expressed in a somewhat different notation. The skeptic, a would-be revolutionary, has been co-opted into mere reiteration of the standard dogma.

Clearly, the co-optionist's claim requires defense, for the skeptic's
formulation of her alternative theory will certainly appear to express a theory distinct from that expressed by the standard theory-formulation. What the co-optionist needs is a semantical principle showing that the two formulations nevertheless express the same theory. Various such principles have been used in this way, to produce co-optionist arguments of varying scope and plausibility.

Co-optionist arguments of very broad scope were offered by positivist philosophers such as Rudolf Carnap and Hans Reichenbach. Some of these simply relied on a semantical principle of "holistic verificationism", according to which the meaning of an entire theory is exhausted by what it implies about appearances. Other, more sophisticated arguments have been buttressed by invoking meaning-postulate semantics to support the contention that certain theoretical terms are used differently in the alternative theory, and thus that certain apparent incompatibilities can be laid to equivocation. However, the implausibility of the positivist's semantical assumptions would make these older versions of the co-optionist strategy unattractive today. The co-optionist arguments that are currently popular are of a more modest sort; they are intended to apply only in cases where the skeptic's alternative theory is very similar to the standard theory in logical structure. In such cases — including, paradigmatically, switched-words cases — one can see the two theories as "intertranslatable", and thus the co-optionist conclusion seems more intuitively plausible. This more limited sort of co-optionist argument has been advanced by Quine (op. cit.) in response to the electron/molecule puzzle, and to a more complex example from Poincaré involving alternative geometrical representations of space. Other instances of co-optionist arguments based on this sort of structural intertranslatability have been made by philosophers of science such as Hartry Field, Mark Wilson, and Hilary Putnam.

Now none of these writers would espouse meaning-postulate-style semantics for theoretical terms, nor do they intend their co-optionist claims to rest on identifying theories merely on the basis of empirical equivalence. However, it is not clear just what semantical principle would support the claims they make about examples of the electron/molecule type. Perhaps a clue to their semantical motivations can be found in a comment by Putnam. Putnam supports his co-optionist claim
by citing "an insight of Quine's. That is the insight that *meaning*, in the sense of reference, is a function of theory . . .".7

Applied to the present example, "Quine's insight" is that the reference of a term like 'electron' is determined by the role the term plays in our scientific theory. Although Putnam does not spell out a precise account of reference, it is clear that he takes our terms like 'electron' to refer to the entities whose assignment to our terms would make our theory mostly true (or, perhaps, as true as possible). This semantical intuition would presumably support the co-optionist conclusion as follows: Since the roles of 'electron' and 'molecule' in the skeptic's alternative theory are essentially identical to the roles of 'molecule' and 'electron' (respectively) in the standard theory, the referents whose assignment to the standard theory's 'electron' and 'molecule' would make that theory truest will be the same as the referents whose assignment to the alternative theory's 'molecule' and 'electron' (respectively) would make that theory truest. Thus 'electron' as used in the alternative theory must refer to just what 'molecule' standardly refers to, and the alternative theory's 'molecule' will be coreferential with the standard theory's 'electron'. So the two theories make the same claims about the same things, but use slightly different notations in doing so.

Interestingly enough, the semantical assumption employed here is essentially the same as the one N. L. Wilson employs in arguing that someone who put forward the switched-words alternative theory about Anthony and Caesar would merely be restating the standard theory. Wilson offers the following account of how proper names refer:

> And so we act on what might be called the Principle of Charity. We select as designatum [of a proper name] that individual which will make the largest number of [the speaker’s] statements true. (*op cit.*, p. 532).

On the basis of this semantical account of names, Wilson argues that an advocate of the switched-words "alternative" hypothesis about Anthony and Caesar would simply be using 'Anthony' to refer to the referent of our word 'Caesar', and vice-versa. In both the scientific and the historical cases, the skeptic (despite her best intentions to the contrary) seems to end up toeing the party line.

Semantical principles roughly along the above lines have certainly had advocates, even among those who were not concerned with
answering skeptical challenges of the switched-words type. Theory-relative accounts of reference for theoretical terms have been put forward by philosophers of science such as the later Carnap and David Lewis. And Wilson's account of proper names is very close to standard "cluster of descriptions" accounts offered by John Searle and P. F. Strawson. Semantical theories of this type offer an attractive way of answering certain instances of the basic semantical question "How do words hook up with things?" (Wilson op. cit., p. 528). The root intuition behind these accounts is something like this: certain things are not directly accessible to us; so instead of attaching our words to these things directly, we do so indirectly, through the mediation of other words, which have already been interpreted. We assign the problematic words whatever referents would (given the interpretation of other, presumably less problematic words) make certain of our sentences true.

But attractive as this general approach to answering certain instances of the basic semantical question may be, it turns out that there are serious problems with using it to refute skepticism in the co-optionist way. Again, let me concentrate first on the electron/molecule case. The co-optionist argument depends crucially on taking the theory-dependence of theoretical terms "individualistically" — that is, so that the reference of a theoretical term in the mouth of the skeptic is assigned by trying to make true the theory currently believed or asserted by the skeptic herself. (If we took the referents of the skeptic's words to be assigned, say, by making true the theory commonly accepted by the scientific community from whom the skeptic learned the word, there would be no reason at all to reconstrue her words as the co-optionist wishes to.) But the sort of radical individualism required by the co-optionist argument is simply not plausible in general.

In ordinary cases of scientists' uses of theoretical terms in English, we have no reason to separate the reference-determining theory (that is, the theory we try to make true in assigning referents) from the theory currently being asserted. And the same would even hold in certain extraordinary cases involving "switched-words" variants of the standard theory. For instance, if some scientifically untutored English-speaking inhabitant of a desert island independently came up with a switched-words variant of our physical theory, I think that we probably would take his own theory as the relevant one for determining the reference of
the terms he coined. In such a case, we should treat his theory as agreeing with ours, and, as such, posing no skeptical difficulties.

However, in certain other cases, the individualistic presupposition does not appear to hold at all. In particular, consider the skeptic. Far from positing her entities independently, the skeptic may well intend or explicitly stipulate that her use of ‘electron’ match ours in meaning. And why should we override her intention or stipulation? There is nothing in the basic motivation behind “theory-relative” semantics that would preclude allowing the skeptic’s words to connect to the world via the commonly accepted theory of the speech community from whom the skeptic learned the word.¹ And it is intuitively very hard to see why a perverse physicist couldn’t use the language she learned in school — our language, with its referents determined by our theory — to express a theory that was dramatically at odds with ours. If we accept this intuition, we cannot always take theory-dependence individualistically. And in that case, we cannot answer the perverse physicist in the co-optionist way.

A second problem with the co-optionist answer to electron/molecule skepticism arises even if we accept the individualistic version of theory-dependence criticized above. Consider a less perverse skeptic, a philosophical physicist, who believes the standard theory of physics, but who is troubled by philosophical doubts. Although the standard theory is true, she thinks, things would look just the same if molecules were much smaller than electrons, electrons were composed of atoms held together by sharing molecules, etc. Therefore, she might worry that our (true) belief in the standard theory is unjustified.

The philosophical physicist’s total epistemological-plus-physical theory seems to be a consistent extension of the standard physical theory. She may hold some philosophical views not shared by the majority of her physicist colleagues, but she certainly does not accept the tenets of the switched-words alternative theory of physics. Thus we cannot argue that ‘molecule’ plays the same role in her theory as ‘electron’ plays in the standard theory. Therefore, even if we accepted the individualistic semantical premise, we could not use it to co-opt this particular sort of switched-words skeptic.

Not surprisingly, analogous problems infect Wilson’s treatment of the Anthony/Caesar case. Wilson’s individualistic Principle of Charity
seems intuitively wrong when one considers a skeptic — a perverse historian — who is deliberately out to disagree with the common consensus. (In fact, even those such as Searle and Strawson who share Wilson’s basic “descriptivist” approach to proper names have not shared Wilson’s individualism.) And even if Wilson’s principle were accepted, it could not be used to co-opt a skeptic who believed what she had learned about History, but who was nevertheless worried by what she had learned in Philosophy — in other words, a philosophical historian.

Thus co-optionism — the most obvious strategy for responding to switched-words skeptical problems — turns out, on careful inspection, to fail in two ways. First, it depends on semantical assumptions which are implausibly individualistic. Second, even if these semantical assumptions were plausible, they wouldn’t prevent a “philosophical” switched-words skeptic from raising the epistemological problem. This collapse of co-optionism leaves us with a problem: what can we say to the switched-words skeptic? Those who have dismissed this type of problem as trivial have almost universally given co-optionist justifications for doing so. What should we now make of the common intuition that there must be a relatively easy semantical way of dismissing this sort of skeptical challenge?

It seems clear that if we are to use semantical considerations to refute the switched-words skeptic, our strategy must be subtler than that of claiming the skeptic’s alternative theory to be merely a restatement of our own. And in retrospect, perhaps this is not surprising. We all recognize that speakers may use the public language to say innumerably many false, silly, and even idiotic things, through mistakes, in attempts to deceive, in making jokes, etc. Why should things be any different in epistemological discussions? There is something basically incredible in the idea that a speaker’s words undergo drastic and involuntary changes in meaning the moment his mood turns skeptical. With this in mind, I’ll turn to the only non-co-optionist treatment of switched-words skepticism I have found in the literature. I will argue that this argument, unlike that of the co-optionists, enjoys some (albeit limited) success.
3. A NON-CO-OPTIONIST USE OF CHARITABLE SEMANTICS

In a recent paper, Paul Horwich offers an argument intended to answer any skeptical challenge based on an alternative theory that is what he calls a "potential notational variant" of the standard theory; I will concentrate, however, on its application to the electron/molecule case. Horwich's argument allows us to reject the co-optionist's suggestion that the alternative theory merely restates the standard theory, and to take the two theories at face value, as incompatible. We must assume that our standard theory of physics is formulable as a single sentence T; and that T entails its Ramsey sentence R(T). Horwich claims that if T is our standard theory, then our reference-fixing practice guarantees

(H) If R(T) is true, then T itself is true.

Horwich next points out that the alternative theory T' entails the same Ramsey sentence R(T) as is entailed by the standard theory. The anti-skeptical argument may then proceed as follows: Suppose that the alternative theory T' were true. Then R(T) would be true. But then, by the semantical principle (H), T itself would be true; and thus the incompatible T' would be false. The skeptic's alternative physical hypothesis is thus subject to a linguistically based *reductio ad absurdum*.

The heart of Horwich's argument is clearly his semantical principle (H). Interestingly, the semantical intuitions behind this principle are quite similar to those behind the co-optionist arguments considered above; in fact, Horwich explicitly identifies his basic semantical assumption with the theory-relative Carnapian account of theoretical terms mentioned above. While (H) is not itself a principle about reference, it is supposed to follow from the correct account of reference. In his intuitive explanation of the principle, Horwich (like Carnap) makes it clear that the terms of a theory are supposed to refer to the things (if such exist) that would make the theory true (although unlike the co-optionists, Horwich is not tied to an individualistic interpretation of this theoretical determination of reference).

The main difference between this argument and that of the co-optionists lies in the distinct way in which this basic semantical idea is used. The present argument makes crucial use of the fact that this sort
of semantics tends to make the relevant theory true. Instead of trying to interpret the alternative theory in a non-standard way, we concentrate on the interpretation of the standard theory. The similarity between the standard and alternative theories guarantees that if the alternative theory can be made true, then so can the standard one; and the semantical principle (H) guarantees that if the standard theory can be made true, it is true. Thus the argument essentially capitalizes on a “charitable” bias, built into the semantical principle (H), toward making the standard theory true. It is simply this favoritism for the truth of the standard theory that gives standard-theory-proponents an edge over the skeptic.13

Unfortunately, this analysis of Horwich’s argument suggests that its range of application will be quite limited. For even if (H)-style principles are plausible for theoretical terms like ‘electron’, they cannot be plausibly applied to all of our words. The whole point, after all, of descriptivist accounts of theoretical terms such as Carnap’s or Lewis’ is to use a foundation of pre-interpreted vocabulary to interpret new vocabulary. This sort of motivation clearly does not support taking all of our vocabulary to be interpreted through (H)-style mechanisms. And it is hard to see what motivation there could be for holding that all our words are interpreted simply by trying to make our beliefs true. (If the only constraint on interpreting any part of our language were to make our beliefs true, epistemology would be much easier. For given the ease with which interpretations can be constructed, such a semantics would render us all infallible! Alas, there is little reason to believe that such a semantics is true of our language.) Indeed, descriptive accounts of proper names, which are closely analogous to the Carnapian account of theoretical terms, have been severely criticized in detailed arguments intended precisely to show that a proper name need not refer to the thing that would make most of our beliefs true.14

If we are to find any general method for answering the switched-words skeptic, then, it cannot depend on assuming that an (H)-style bias toward truth is built into the semantics of all of our words. Horwich’s argument, though it may provide a sound answer to the electron/molecule skeptic, cannot help us see what is wrong with skeptics’ suggestions in the innumerably many cases generated by switching words that are not governed by descriptivist semantical
principles. Thus, at this point, our intuitive reaction to switched-words skepticism — that it must generally be dismissible by reflection on language — has yet to be explained or justified.

I will begin the next section by discussing a switched-words example involving proper names — a kind of word for which Horwich’s semantical assumption seems particularly doubtful. I will simply assume a semantical theory that does not work by trying to make anyone’s beliefs true. To make exposition clearest, however, I will not start with Wilson’s historical Caesar/Anthony example, but rather with a fictional example involving non-historical people.

4. A NEW ANSWER TO SWITCHED-WORDS SKEPTICISM

Let us imagine a couple, the Joneses, who have two children, five-year-old twins of opposite sexes, named ‘George’ and ‘Martha’. The Joneses have many ordinary beliefs about the twins, which, for the most part, they have never seen any reason to doubt. However, it might seem that we could, by using the “switched words” technique, describe a possibility that would be empirically indistinguishable from the one the Joneses believe to obtain, yet radically different from it. Roughly speaking, we would intersubstitute ‘George’ and ‘Martha’ in the sentences that the Joneses would use to express their beliefs.

Thus suppose that the Joneses would express some of their beliefs as follows:

- George is our son
- Martha is our daughter
- Martha is taller than George
- The boy responds to ‘George’
- George responds to ‘George’.

The “rival theory” will contain the following:

- Martha is our son
- George is our daughter
- George is taller than Martha
- George is taller than Martha
- The boy responds to ‘George’
- Martha responds to ‘George’.
On either theory, calling out 'George!' would bring a little boy running, 'Martha!' would bring a taller girl, and so on. Thus while in this case the switched words are not theoretical terms, or even historical proper names, I think that there is a natural sense in which the rival theory at least *prima facie* describes an empirically equivalent possibility. Nevertheless, there is something extremely unconvincing — even absurd — in the skeptical suggestion that the Joneses have no good reason to believe, for example, that Martha is taller than George. And it seems to me that something about our use of names is at the root of this feeling.

We have, however, rejected the co-optionist strategy for answering the skeptic, and have also decided to assume a semantical theory for proper names that would not validate (H), the key premise in Horwich's argument. Thus it remains to be seen just what can be said to the skeptic in this case.

Let us for simplicity assume the following caricature of contemporary "causal" or "historical" accounts of reference for proper names:

\[(O)\] The referent of a proper name is that object ostended in the name's original dubbing ceremony.

Clearly, (O) is not the kind of theory of reference that would generally make us interpret a name so as to make our standard beliefs true. Yet it seems to me that there is an (O)-based argument against the skeptic that is, at least potentially, available. The argument depends on the theories about George and Martha containing some claims which are not listed above, but which would very plausibly be part of the theories. Let us suppose that the Joneses remember the dubbing ceremony at which they named their babies. Thus among their beliefs are the following:

We pointed at our son and said "Let 'George' refer to *him*!"
We pointed at George and said "Let 'George' refer to *him*!"

The skeptical alternative theory will, as before, attempt to describe a situation where the appearances are the same, but the identities of the children are interchanged. Thus it will contain:

We pointed at our son and said "Let 'George' refer to *him*!"
We pointed at Martha and said "Let 'George' refer to *him*!"
The anti-skeptical argument may now proceed as follows:

Suppose that the alternative theory is true. Then there is an object such that a) it is the Joneses' son, and b) it was the object ostended in the original dubbing for 'George'. By (O), the object satisfying (b) is the referent of 'George'; thus, 'George' refers to the Joneses' son. But then the Joneses' claim "George is our son" is thus shown to be true; and the skeptic's theory, which denies this claim, is shown to be false.

The basic structure of this reasoning is in certain ways quite parallel to Horwich's: in both, a semantical principle is used to show, via a reductio argument, the falsity of the rival theory. But the semantical principle (O) at the heart of the present argument does not seem to be at all biased toward the truth of the standard theory; it would certainly not validate Horwich's central assumption (H). It seems, then, that Horwich's answer to the electron/molecule skeptic is a special case of a more general strategy for giving semantical replies to switched-words skeptics; a strategy which is quite independent of any charitable semantical principles.

In order to see more clearly what this general strategy might be, it will be useful to see what our (O)-based anti-skeptical argument has in common with a basically Horwichian answer to the electron/molecule skeptic. To that end, I would like to display these two arguments in a form designed to highlight certain important features they share. This can best be done by constructing the Horwichian argument in terms of an underlying principle of reference, rather than simply in terms of Horwich's derived principle (H). Since several basically similar principles of reference may underlie such arguments, I have simply chosen Lewis' (op. cit.); unlike Carnap's principle, it requires that a theory be uniquely realized for its terms to refer. Also, I will concentrate on only one of the switched words in each case.

**JUSTIFICATION ELECTRON/MOLECULE GEORGE/MARTHA OF CLAIM ARGUMENT ARGUMENT**

I. (Claim accepted on either standard or alternative theory)

<table>
<thead>
<tr>
<th>JUSTIFICATION</th>
<th>ELECTRON/MOLECULE ARGUMENT</th>
<th>GEORGE/MARTHA ARGUMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. (Claim accepted on either standard or alternative theory)</td>
<td>There is a unique kind of thing that is subatomic, negatively charged, etc., AND which would uniquely satisfy the commonly accepted 'electron'-theory.</td>
<td>There is a person who is our son, who is shorter than his sister, etc., AND who was ostended at the original dubbing for 'George'.</td>
</tr>
</tbody>
</table>
II. (Instantiation of semantical principle)

If there is a kind of thing that uniquely satisfies the commonly accepted 'electron'-theory, it is the referent of 'electron'.

If there is an object that was ostended at the original dubbing for 'George', it is the referent of 'George'.

III. (Subconclusion, from I and II)

'Electron' refers to a kind of thing that is subatomic, negatively charged, etc.

'George' refers to a person who is our son, shorter than his sister, etc.

IV. (Conclusion, from III and obvious semantical principles)

'electrons are subatomic', 'electrons have negative charge', etc., are true, so the alternative theory is false.

'George is our son', 'George is shorter than his sister', etc., are true, so the alternative theory is false.

Each argument contains two main premises. One is a semantical principle, instantiated as step II above. The other one, represented as step I above, is a bit harder to characterize generally. It jointly ascribes two different sorts of properties to the same (kind of) thing. The first sort of property is the central controversial sort, which the standard and alternative theories ascribe to different objects (e.g. being subatomic in the first ease, being our son in the second case). The second sort of properties are not ones which would obviously figure in the skeptical dispute at all. They are properties whose importance is semantical: they suffice, given a certain semantical theory, for making their bearer the referent of a certain word. In the first case we have uniquely satisfying the commonly accepted 'electron'-theory, which, on the Lewisian semantics, suffices to pick out the referent of 'electron'. In the second case, we have having been ostended at the original dubbing for 'George', which, on (O), suffices to pick out the referent for 'George'.

It is crucial to the arguments that on both the standard theory and the skeptic's alternative theory, the controversial properties and the semantically important property are jointly attributed to something. For it is just this link between the two sorts of properties that the semantical argument takes advantage of. The semantically important properties (e.g. having been ostended at the original dubbing for 'George') are
sufficient to make whatever has them the referent of a certain word (e.g. ‘George’). The controversial properties (e.g. being our son) are attributed to the same thing. Thus the word refers to the thing possessing the controversial properties. But the controversial properties are those that the standard theory associates with the word in question. Thus, in step III, we can conclude that the word in question refers to the (kind of) thing that has the properties standardly attributed to the word’s referent. We then can (in step IV) show true certain controversial claims of the standard theory. This shows the alternative theory false, completing the reductio, and the skeptical challenge has been refuted.15

5. THE (OCCASIONAL) CONVINCINGNESS OF SWITCHED-WORDS SKEPTICISM

The above form of argument does not seem to derive from anything special about the nature of the semantical principles involved. Rather, it seems to capitalize on the fact that the alternative theory, although it attributes deviant properties using the switched words, also attributes (in step I) certain standard properties to the words themselves. This may seem to suggest that there is a purely general, even formal, problem inherent in any switched-words alternative theory. If that were so, then answering the switched-words skeptic would not only be independent of Horwich’s particular semantical assumption, it would be independent of any particular semantical assumptions. Such a conclusion would certainly support the general claims made by Quine, Horwich, and others that switched-words skeptical theories can never pose an epistemological threat.

It seems to me, however, that these general claims are wrong. One way of seeing this is to think about the epistemological consequences of certain (perhaps absurd) semantical principles. Suppose, for example, that God assigned all words new referents every ten minutes, by spinning a roulette wheel in heaven. In such a case, I do not think that it would be at all impossible for our physicists to be wrong in exactly the way suggested by the switched-words skeptic. In fact, if we believed in such a theory of reference, it seems to me that some radical kind of switched-words skepticism would probably be the only reasonable position to hold.
And one need not even depend on bizarre semantical theories to find examples in which the switched-words skeptic would have a legitimate point. Consider another example involving the ostensive-dubbing account of reference (O). Suppose that the Joneses buy two goldfish, which, to the Joneses, look identical. They put them in separate bowls, and dub one ‘Ron’ and the other ‘Nancy’. However, they soon decide that the fish seem lonely, and they transfer Ron into Nancy’s bowl. Not long afterwards, one of the fish becomes sluggish and starts swimming around in circles. The circles get smaller and slower, until, one day, Mr. Jones finds the unfortunate fish floating in the bowl, belly up, dead.

“Poor Ron!” says Mr. Jones. “He suffered so much, and died so young!”

“Nancy still has her health, but she’ll be too lonely to enjoy it,” adds Mrs. Jones. “What a pity!”

Now suppose someone suggests that perhaps it is not Ron who is dead after all: perhaps Nancy was the one who became sluggish, started swimming in circles, and finally died; and perhaps it is Ron who is now healthy but lonely. It would seem that the Joneses will be faced with a familiar sort of “skeptical problem”. But this time, the skeptic is intuitively right — the Joneses really have no good reason to believe that it was Ron, rather than Nancy, who died!

Thus it seems that while our usual resistance to switched-words skepticism does not stem from an inbuilt bias toward truth in our semantical theory, it also does not simply result from some purely general problem inherent in formulating the switched-words alternative theory. Indeed, any suggestion that switched-words variants of our standard beliefs can never raise legitimate epistemological problems must be wrong. The intuitive unconvincingness of most switched-words skeptical arguments must depend on particular features of particular cases, features that go beyond the question of which semantical theory we assume. In the next section, then, we will see what these features are.

6. THE ROOT OF THE SEMANTICAL REPLIES TO THE SKEPTIC

To see what underlies successful responses to the skeptic, let us try to answer the skeptic in the Ron/Nancy case the same way we did in the
George/Martha case. Since the skeptic should win, the anti-skeptical argument should fail; and seeing how it fails should cast some light on just what is needed to answer switched-words skeptics, and thus on why such skepticism is usually so unconvincing.

In answering the George/Martha skeptic, our key premise relied on the Joneses' memory-based belief that they had dubbed their male child 'George'. This allowed us to link the name 'George' in a semantically important way with one of the central properties standardly attributed to George himself. In the present case, an analogous claim would be:

There is a fish who became sluggish, swam in increasingly small circles, died, etc., AND who was ostended at the original dubbing for 'Ron'.

Let me call this sort of claim, exemplified in step I of the successful arguments in the table above, a "linking claim," since it links the switched word with the controversial properties standardly attributed to the word's bearer(s). And let us now ask the question: should the skeptic accept the linking claim in the present case?

The Joneses might well believe that they dubbed the now-dead fish 'Ron'. In fact, if they believe in an (O)-style semantical theory, it would be silly of them not to, since they believe that the now-dead fish is Ron. But this only points up the reason that the skeptic needn't accept the claim: the Joneses' only reason for believing that they dubbed the now-dead fish 'Ron' is that they believe that the now-dead fish is Ron. This latter belief, however, is one of the central ones the skeptic has set out to challenge. To require the skeptic to accept claims directly based on this belief would be no less question-begging than requiring her to accept the claim that Ron is dead at the outset.

Contrast this with the analogous claim in the George/Martha case. There, the Joneses had a memory of dubbing a boy 'George'. This memory provided them with a basis for believing their linking claim that did not depend on their (disputed) belief that their boy was George. For the skeptic to refuse to accept this claim, she would have to challenge the Joneses' memory of the event, saying, e.g., that the baby they had dubbed with the name 'George' wasn't really male.

Now perhaps some skeptic could challenge the Joneses' claim, invoking, say, perceptual illusion, or faulty memory, in support of his view. But it is clear that this would no longer be switched-words
skepticism. The particular philosophical interest of switched-words skepticism is dependent on the very close similarity that it allows between the standard and alternative theories; no evil demons, hallucinations, or lapses in memory need be invoked to support the switched-words skeptic's claim of empirical equivalence. And while this close similarity gives the switched-words skeptic's position a certain kind of interest, it also imposes on her the obligation to accept certain premises that are not intrinsically indubitable, and which might be used against her. One example of such a premise is a general semantical theory; and general assumptions about the reliability of memory and perception are others. In essence, the switched-words skeptic must accept any plausible claim whose plausibility doesn't depend on acceptance of the central claims she is trying to challenge.

Thus the skeptic fails in the George/Martha case because the Joneses have an independent way of appropriately linking the property of being a boy with the name 'George' — a way that does not depend on the disputed belief that George is a boy. And the skeptic wins in the Ron/Nancy case because the Joneses have no independent way of connecting being a dead fish with the name 'Ron'. It seems, then, that the key to giving a successful semantical answer to the switched-words skeptic is essentially that one be able to appropriately link the properties central to the dispute with the switched words, and link them in a way independent of the beliefs the skeptic is basically interested in challenging. One must have, in other words, an independent linking claim.

This analysis is borne out in thinking about the bizarre theological theory of reference considered above. Consider how such a theory of reference would affect our epistemic situation in the electron/molecule case. If we believe that God was constantly rearranging our referents in an arbitrary and invisible way, a dogmatic believer in the standard physical theory might still conclude (at any point in time) that God had assigned a certain kind of subatomic particle to the word 'electron'. This would follow from the belief that electrons were a kind of subatomic particle, along with the bizarre semantical theory (and the assumption that 'electron' referred to electrons). And this claim could, if accepted, be used to show the skeptic wrong: it would link the central property of being a subatomic kind of particle with the word 'electron',
in such a way that we may use the relevant semantical theory to infer that 'electron' refers to a subatomic kind of particle.

But why should the skeptic accept this claim? Its plausibility is wholly dependent on the claim that electrons are subatomic, which is exactly what the skeptic is out to deny. The dogmatic physicist has no independent reason to believe that God has made the assignments in the way claimed. Thus, as in the Ron/Nancy case, the anti-skeptical argument fails for lack of an independently plausible linking claim. And as in the Ron/Nancy case, this is the result that we would have hoped for, since this is also a case in which the skeptic should win.16

7. THE (GENERAL) UNCONVINCINGNESS OF SWITCHED-WORDS SKEPTICISM

In the examples we've seen where the anti-skeptical argument was successful, the epistemological route to this linking claim has been relatively short and direct: in the electron/molecule case, we assumed that we knew our theory to be the standard one; and in the George/Martha case, we supposed that the Joneses remembered the relevant dubbing. However, there is no general reason why the linking claim must always be this easy to come by.

Consider a somewhat different semantics for theoretical terms, in which the reference-determining theory for 'electron' and 'molecule' is not the theory currently believed by our physicists, but instead is the theory that was believed by the physicists who originally coined the terms. If we adopted such a semantics, we might have to do some historical research — looking at old physics texts, or journal articles, or even physicists' personal notes and correspondence — before we could answer the skeptic.17 Similarly, suppose that the Joneses could not remember the moment at which they dubbed their children. They could still answer the skeptic, supporting their linking claim with such common-sense beliefs as that they would not have dubbed a male child with a traditionally female name, and that they would not have mistaken a female baby for a male one.

A more extreme example is provided by Wilson's Anthony/Caesar case. Consider how we might use a theory like (O) to argue against the switched-words skeptic here. We'd need to justify our belief that the
baby who was to become emperor was dubbed 'Julius', without using our belief that Julius was the emperor. We might have to rely, for instance, on our general knowledge of Roman society, or of human nature in general, to support the probability that the emperor's contemporaries would have used the name he was dubbed with, and the improbability that historians or scribes made massive mistakes, or committed purposeful deceptions, with the name as it was handed down through the ages.  

It seems that the general success of our anti-skeptical arguments, and the general unconvincingness of switched-words skepticism, derives from a fact about our use of language that is much more general than any particular mechanism of reference: our words generally refer in such a way as to allow us some way or other of telling what their referents are. The sense of “telling what the referents are” is given by the notion of independent linking claim. Roughly: for a word ‘X’, we must be able to link the “semantically important” properties (those which suffice for being the referent of ‘X’) with the “materially important” properties (those we want to attribute to X); and the plausibility of this link must not depend on our attributions to X of the materially important properties.

There are, of course, some cases in which we cannot answer the switched-words skeptic at all: cases in which we have no way of telling (in the relevant sense) what our words refer to. The fact that the semantics of our language generally gives us this sort of access to the referents of our words does not in any way rule out occasional exceptions, in which we completely lose track of what a word refers to. In such cases, the claims we make by using the word may well be unjustified (and this lack of justification may show itself in vulnerability to switched-words skepticism).

Fortunately, however, such cases are rare. Our words refer through mechanisms like ostention and definition, not through God spinning a roulette wheel in heaven. No doubt it would be ridiculous to use a kind of word whose semantics never gave us the right kind of access to its referent; indeed, it is undoubtedly a constraint on reasonable semantical theories that they typically make the referents of our words accessible in this way. In a way, then, the general unconvincingness of switched-words skepticism depends, at bottom, on a certain kind of linguistic common sense.
In rebutting the switched-words skeptic, the semantical arguments we have been studying perform a vital function. The reasons traditionally given for dismissing this sort of epistemological problem have been bad ones, founded on philosophical mistakes about language. If we could not see how to rebut this widely generalizable skeptical strategy in a more satisfactory way, our confidence in the vast majority of our beliefs would amount to simple dogmatism.

We might still wonder, of course, whether our semantical anti-skeptical strategy can also be utilized outside the switched-words context. Although I cannot treat this question in detail here, I would like to reflect very briefly on a recent semantical reply to a distinctly non-switched-words skeptical challenge, which I believe will prove illuminating.

The example is Putnam’s recent refutation of a skeptical suggestion that we are, and have always been, brains contained in a big vat, our experiences caused by computer-generated electrical impulses. Putnam’s semantical refutation of this skeptical hypothesis hinges on a loosely formulated causal theory of reference. It also depends, crucially, on a certain claim which the details of Putnam’s vat-hypothesis force his skeptic to accept: that our uses of ‘vat’ are causally connected (in the appropriate way) only to things which do not contain us. Given the causal semantical theory, this claim links the semantically important property (being causally responsible for our uses of ‘vat’) with the controversial property (not containing us) that we standardly want to attribute to vats. In other words, this claim is an example of what I have been calling an “independent linking claim”. Putnam then argues (roughly) as follows: On the skeptic’s own hypothesis, our uses of ‘vat’ are not caused by something that contains us. But then (by the causal semantical principle) the word ‘vat’ cannot refer to something that contains us. And in that case the skeptic’s sentence ‘we are in a vat’ cannot be true. Thus the skeptic’s hypothesis is subject to semantical reductio ad absurdum.

Unfortunately, as some of Putnam’s critics have pointed out, slight revisions of the brain-in-vat-hypothesis eliminate its support for the crucial claim that our uses of ‘vat’ are caused by things that do not contain us. Suppose, for example, that instead of hypothesizing that we
have always been envatted, the skeptic hypothesizes that we were envatted just this morning. On this revised skeptical hypothesis, the predominant causes of our uses of 'vat' would be vats — the very kind of thing that now contains us. The skeptic advancing this hypothesis, then, would not be forced to accept the linking claim; and the semantical refutation could not get off the ground. Thus it turns out that Putnam's semantical argument, while arguably sound on its own terms, cannot provide us with a general refutation of brain-in-vat skepticism. The semantical anti-skeptical strategy is, in a clear sense, unsatisfying in this context.

It seems to me that this gives us considerable insight into the scope and limitations of our semantical anti-skeptical strategy. Recall the reason that the switched-words skeptic could not typically challenge the anti-skeptical linking claim: The linking claim was part of the standard theory, and was not affected by the word-switching mechanism used to generate the alternative theory from the standard one. To deny the linking claim, the skeptic would have to depart from her simple recipe for generating the alternative theory from the standard one, and in doing so would destroy the close structural similarity between the two hypotheses. Yet this structural similarity, as we have seen, is central to the philosophical power of her kind of skeptical challenge.

The brain-in-vat skeptic, on the other hand, cannot hope to achieve this sort of structural similarity. There is no simple mapping which transforms the standard theory into his fantasy about brains in vats. For this reason, he may be vulnerable to anti-skeptical arguments based on traditional desiderata for theory choice such as simplicity, ontological economy, or explanatory power. But by not attempting to match the structure of the standard theory, the brain-in-vat skeptic gains a certain latitude in formulating his skeptical alternative, a latitude that allows him to avoid endorsing the linking claim that our semantical refutation would depend on.

Given our analysis of the semantical anti-skeptical strategy, this limitation on its scope should not be surprising. There is no reason, after all, to suppose that the linking claims which underlie the strategy should be in any sense indubitable. Thus the skeptic may evade refutation by doubting the linking claim — unless the particular nature of her skeptical argument precludes this move. What this suggests is that our strategy is most likely to provide satisfying results when applied to
skeptical arguments which, like switched-words arguments, depend on structural similarities between the skeptical hypothesis and the standard one. It is thus more likely to be helpful in solving problems posed by empirically equivalent theories in the philosophy of science than it is in refuting bizarre skeptical fantasies about vats, or dreams, or evil demons.

If this is right, then it turns out that there is, after all, some truth behind the common intuition that linguistic considerations can help us allay skeptical doubts raised by alternative hypotheses that are very similar to the standard one in logical structure. But the reason for this has nothing to do with any logical or linguistic barrier that somehow prevents the skeptic from expressing a theory that disagrees with ours while maintaining the structural similarity. No such barriers exist. The real reason for the vulnerability of this sort of skeptical hypothesis is ultimately grounded in the dialectic of skeptical debate. The skeptical strategy of mirroring our ordinary theory's logical structure has its advantages. But maintaining this structural symmetry imposes severe constraints on the skeptic's ability to tinker with her alternative hypothesis. Maintaining the structural similarity will (often) require the skeptic to accept a linking claim that, along with an appropriate semantical theory, will entail the falsity of the skeptical hypothesis.

9. CONCLUSION

Semantically based arguments play a crucial role in responding to a certain sort of skeptical strategy, a strategy that is widely generalizable, and which is otherwise peculiarly difficult to answer. The anti-skeptical arguments we have been studying do this while avoiding reliance on the insupportable linguistic claims of co-optionism. Instead, they rely on the prevalence of a certain plausible general feature of the semantics of our language. Not surprisingly, this epistemologically important feature is itself frankly epistemological: in essence, we must (typically) be able to tell what a word refers to, in a way independent of the beliefs we use the word to express. In addition to rendering valuable anti-skeptical service, then, the arguments we have been studying display an additional dimension of interest, for they help to illuminate the ways in which our knowledge of the world at large is bound up with our knowledge of a particular part of that world — the language we use to describe it.
NOTES

1 I would like to thank Joseph Almog, Richard Healey, David Kaplan, Hilary Kornblith, Arthur Kuflik, William E. Mann, Derk Pereboom, George Sher, and a referee for Philosophical Studies for helpful discussions and comments on earlier drafts.

2 This problem is taken from W. V. Quine's "On Empirically Equivalent Systems of the World," Erkenntnis 9 (1975): 313—328. He credits the example to B. M. Humphries ("Indeterminacy of Translation and Theory," Journal of Philosophy 67 (1970): 167—178), but Humphries' example is somewhat different, and is used for somewhat different purposes.

3 "Substances without Substrata," Review of Metaphysics 12 (1959): 521—539. Wilson's main goals in this paper are metaphysical, and the epistemological problem I am interested in is often intertwined (and, I think, confused) with a metaphysical one. In particular, Wilson tends not to distinguish between two possibilities looking the same, and those possibilities being the same. I will not discuss Wilson's metaphysical concerns, and will treat the example as if its primary point were epistemological.


5 The exact characterizations of structural similarity given by various contemporary co-optionists vary slightly, but the account given by Quine (op. cit.) is typical. It relies on his notion of a "reconstrual of predicates", which he defines as "any mapping of our lexicon of predicates into our open sentences (n-place predicates to n-variable sentences)." He proposes that "two formulations express the same theory if they are empirically equivalent and there is a reconstrual of predicates that transforms one theory into a logical equivalent of the other."

6 See Field's "Conventionalism and Instrumentalism in Semantics," Nous 9 (1975): 375—405 (especially pp. 391—394); Wilson's "The Observational Uniqueness of Some Theories," Journal of Philosophy 77 (1980): 208—233; and Putnam's "The Refutation of Conventionalism," in Mind, Language and Reality (Cambridge, England: Cambridge University Press, 1975) and "Equivalence," in Realism and Reason (Cambridge, England: Cambridge University Press, 1983). In one footnote in the former paper, Putnam does say that we might in some circumstances interpret the proponent of the alternative theory as using his words with the same meanings we use. In such a case, Putnam says that we would have to decide which theory was true on the basis of simplicity. But while this response might seem adequate in the fairly complicated case Putnam is discussing, it would not be at all plausible in our electron/molecule case.


10 Putnam, in the above-mentioned footnote ("The Refutation of Conventionalism" p. 165) acknowledges that the reference-determining theory need not be believed by the speaker, but may instead be believed by others to whom the speaker is causally linked.

For reasons that will become clear below, I cannot accept Horwich's claim that the argument applies to all examples involving potential notational variants. Indeed, there are several substantial features of the argument as Horwich presents it that I find unacceptable. Because I do not have space to detail all of these problems, let alone defend my reformulations, I will simply present my version of Horwich's argument, without noting each point at which it diverges from the original.


13 The reader may be reminded here of Davidson's attempt to argue from a very broad version of the Principle of Charity to the conclusion that it is impossible for us to be massively deceived. (See “The Method of Truth in Metaphysics,” in his Inquiries into Truth and Interpretation (New York: Oxford Univ. Press, 1984).) Clearly, Davidson's argument has some very general affinities with Horwich's. Discussion of Davidson's argument would, however, take us too far afield.

14 Classic sources for this line of criticism are Keith Donnellan's “Proper Names and Identifying Descriptions,” and Saul Kripke's “Naming and Necessity,” both in D. Davidson and G. Harman, eds., Semantics of Natural Language (Dordrecht: D. Reidel, 1972). I should note that Horwich argues briefly (op. cit., p. 67) that (14) follows from any theory of reference, descriptivist or not. I cannot discuss my reasons for rejecting this argument here, but reasons for doubting the universal applicability of Horwich's argument will be given below.

15 As I have represented the anti-skeptical argument, its conclusion is metalinguistic, asserting the falsity of the sentences the skeptic is using to express the alternative hypothesis. It seems, at first glance, a trivial move from this metalinguistic claim to the object-level claim we are really interested in: that the world is not as the skeptic suggests. But this basic move has been challenged, particularly by critics of Putnam's semantical refutation of the suggestion that we are all brains in a certain sort of vat. An especially lucid version of this criticism of Putnam's argument can be found in Anthony L. Brueckner's “Brains in a Vat,” Journal of Philosophy 83 (1986): 148–167. Brueckner notes that the criticism applies equally to Horwich's argument. A somewhat similar point has been urged by Peter D. Klein against Davidson's claims that the Principle of Charity affords us relief from wholesale skepticism (see “Radical Interpretation and Global Skepticism,” in Ernest LePore, ed., Truth and Interpretation (New York: Basil Blackwell, 1986, 369–386.). I cannot go into these objections in detail here. In “Skeptical Questions, Semantical Solutions,” Philosophy and Phenomenological Research, forthcoming, I argue at some length that the move from metalinguistic to object-level claims in these anti-skeptical arguments is in no way problematic.

16 It should be clear from the preceding that the switched-word skeptic's hypothesis cannot be taken to be generated by mechanically intersubstituting all uses of two terms in our total system of beliefs. If it did, the electron-molecule skeptic, for instance, would end up making metalinguistic claims such as

‘Electrons have negative charge’ is true.

Clearly, this claim is not intuitively part of what the skeptic wants to suggest. True, Horwich shows that, on a certain semantical theory, the skeptic can be driven, absurdly, to embrace this claim. But it would be question-begging to formulate the skeptic's theory in such a way as to commit her to this claim in advance. (The mechanical way of formulating the skeptic's total theory would even leave her committed to claims such as “The standard beliefs about physics are justified”!)
To avoid saddling the skeptic with such absurdities, we must take her skepticism as directed toward some particular body of belief — such as our theory of physics. We can construct a non-global alternative theory by switching terms within the sentences expressing this body of belief. The skeptic’s total alternative theory should include this switched-word version of the matters centrally under dispute; but we must extend this core in the most reasonable way if we are to study the most interesting form of switched-words skepticism. Whether a skeptic is committed to a certain claim will thus depend not on purely formal considerations, but also on epistemic considerations which take into account whether the claim in question is dependent on the beliefs the skeptic is setting out to challenge.

17 There is an implicit suggestion here that if our historical researches came up “wrong” (if, for example, the original physicists turned out to believe something like the switched-words alternative theory), then we could not answer the skeptic; in fact, we might even show his alternative theory to be correct, in which case we should commence at once to rewrite our physics texts accordingly. This suggestion may well seem absurd. But the absurdity does not, I think, lie in the form of argument under consideration. Rather, it indicates that the semantical assumption involved is not correct.

18 Some might think that such an elaborate argument would be unnecessary in this case, because even if some scribe did switch the emperor’s name with the orator’s, our name ‘Julius’ would still refer to the emperor, and not to its original bearer. This intuition would throw doubt on the correctness of the semantical principle (O), but it would not affect the point in the text. The point is that if (O) accounted for the reference of our names, then we would need to rely on the type of claim cited to answer the switched-words skeptic in the Anthony/Caesar case. If we believed in (O), but had no reason to think that scribes didn’t often switch around names, then it seems clear that the switched-words skeptic would have a good point.

19 My presentation of Putnam’s example must be extremely condensed, containing no more than is strictly required for the points made in the text. I discuss the argument more fully in “Skeptical Problems, Semantical Solutions.”