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REVISIONISM ABOUT REFERENCE: A REPLY TO SMITH

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My task today is an unusual and not very pleasant one. I am not here to debate the adequacy of any philosophical thesis. Rather, my job is to assess claims involving credit and blame. According to Quentin Smith, the central doctrines of *Naming and Necessity*, were developed by Ruth Marcus in her pioneering papers on quantified modal logic in the late 40's, and in her paper, 'Modalities and Intensional Languages' in 1961.¹ Smith maintains that Saul Kripke learned these doctrines from her, initially misunderstood them, and, when he later straightened things out, mistakenly took the doctrines to be his own. Finally, Kripke is supposed to have published them without properly citing her. The entire profession was allegedly fooled, despite the fact that Kripke and Marcus were among its most well known members, and their work was familiar to leading researchers in the field. For years nobody said anything. Now, more than 20 years later, Smith claims to be bringing the truth to light.

In what follows I show that the charges Smith makes against Kripke are false, and that the historical picture he paints is inaccurate. However, before I begin, I want to make clear that although Smith takes himself to be championing Marcus, my criticisms are of him, not her. I take a back seat to no one in my respect, admiration, and affection for both Ruth and Saul. As you will see from my comments on particular matters of substance, **Marcus, along with certain other philosophers, do deserve credit for anticipating important aspects of contemporary theories of reference. However this credit in no way diminishes the seminal role of Saul Kripke.**

With this in mind let me review some of the accomplishments of Ruth Marcus. She is, deservedly, one of the most distinguished and well-known philosophers in America. She is widely recognized and admired for her pioneering work in quantified modal logic, and for her important contributions to a variety of related topics. In 1946 she published the first axiomatic systems of quantified modal logic, together with a collection of theorems provable in the systems, plus some proof theoretic metatheorems.² In

1947 she extended her systems to include second order quantification, and defined identity in terms of second-order indiscernibility.³ She then established a variety of proof-theoretic facts concerning this conception of identity. One of these involved a quantified version of the thesis of the necessity of identity. Specifically, her axiomatic system of second order quantified modal logic (S_4) had as one of its theorems the claim that for all individuals x and y , if $x = y$, then necessarily $x = y$.⁴

In addition to developing these formal systems, Ruth Marcus successfully defended them in the early 1960's against Quine's influential, but ultimately wrong-headed, attacks on necessity in general, and on quantifying into formulas prefixed with modal operators in particular. In the course of developing this defense, she suggested that ordinary proper names might be Russellian logically proper names – terms whose meanings, or propositional contents, are nothing more than their referents. In the 60's and 70's she published important articles on essentialism as a plausible metaphysical doctrine, and helped clarify the minimal extent – namely its intelligibility – to which modal logic, as a system of logic, is committed to it. During the same period, she explored and defended substitutional interpretations of some quantifiers as both formally legitimate and potentially fruitful philosophically. The 1980's and 1990's have seen a series of papers on a wide range of topics, including belief, rationality, direct reference, moral dilemmas and moral consistency. This remarkable record of achievement is widely acknowledged and establishes Ruth Marcus as one of the leading philosophical logicians of the past 50 years.

The question before us is whether a further accomplishment should be added to this already impressive list. I mentioned that in her early work Marcus suggested that ordinary proper names might be Russellian logically proper names. This raises a question regarding the relationship between her early work on this subject and the later development of contemporary non-Fregean theories of reference by philosophers such as Saul Kripke, David Kaplan, Keith Donnellan and others. Despite the similarity between some of the doctrines advocated by Marcus and those later incorporated into the new theories attributed to these philosophers, Marcus is generally not accorded a prominent role in the development of these theories.

Quentin Smith claims there is an historical injustice here. On his view, the so-called "new theory of reference" is Marcus's theory. He claims that its main ideas were developed in her articles on modal logic in 1946 and 1947, and in her 1961 paper, 'Modalities and Intensional Languages'. Later theorists, especially Kripke, are viewed mainly as elaborating these ideas, and adding a few subsidiary points, while denying Marcus proper credit.

A careful look at the historical record will show that this is not so. For example, Marcus's early papers on modal logic, in 1946 and 1947, developed certain formal systems in a language in which **names do not occur at all**, and in which the only singular terms are individual variables. The restricted version of the necessity of identity derived from the axioms of the system therefore **does not** involve names. **These papers are not concerned with natural language, and do not contain formulations or defenses of any theses about proper names.** Moreover, the distinction between proper names and descriptions, and the thesis that coreferential proper names are substitutable in modal contexts without change in truth value, were not original with Marcus. These doctrines appeared in the literature on modal logic in responses to Quine by Arthur Smullyan in 1947⁵ and 1948⁶, and Frederick Fitch in 1949.⁷ In her later work, especially the 1961 paper cited by Smith, Marcus adopted these theses of Smullyan and Fitch, essentially suggesting that ordinary proper names might be Russellian logically proper names. However, even here names were not Marcus's main concern, and theses about their meaning and reference were only briefly indicated, rather than systematically explored and argued for. **Her entire discussion of the meaning and reference of names, as well as their relations to descriptions, covers only five or six pages; and all of Smith's citations come from four of those pages.** This is significant because it constitutes essentially all the evidence he provides for his claim that the central doctrines developed in the late sixties and seventies by Kripke are really due to Marcus. One clue that this claim cannot be correct comes from the observation that proper statements and defenses of the various doctrines of the so called "new theory" would not fit into such a small space.

There is, of course, much more at issue than limitations of space. In what follows I will explain in detail why the historical picture Smith sketches is inaccurate. First, I will survey a series of relevant papers between 1943 and 1961 dealing with quantified modal logic and the behavior of names. These include papers and reviews by Ruth Marcus, Willard van Orman Quine, Arthur Smullyan, Frederick Fitch, and Alonzo Church. I will cite the origins in this literature of various theses about names, descriptions, identity, and modality; and I will explain the philosophical context in which those theses arose. Second, I will go through, one by one, Quentin Smith's claims about the six central ideas allegedly introduced into the new theory of reference by Ruth Marcus, and I will indicate the ways he goes wrong. Third, I will sum up the relationship between the theses about modality, identity, names, and descriptions in this early literature by Smullyan, Fitch, and Marcus, on the one hand, and the much more fully developed theses

of the so called “new theory of reference” that emerged in the 70’s, on the other.

The historical survey begins with Quine’s 1943 paper, ‘Notes on Existence and Necessity’.⁸ It was there that Quine first set out his argument that ordinary objectual quantification into any opaque construction is unintelligible, and hence illegitimate. For Quine, a construction is opaque iff for some pair of coreferential singular terms, substitution of one for the other in some formula within the scope of the construction changes truth value. Quine thought that such failures of substitution show that occurrences of singular terms within the opaque construction are not, as he put it, *purely designative*. By this he meant that their contributions to the truth values of the opaque sentences in which they occur are not exhausted by their reference.

Using these notions, we may reconstruct his argument as follows:

- (P1) Occurrences of singular terms in opaque constructions are never purely designative.
- (P2) Bindable occurrences of objectual variables must be purely designative.
- (C1) An occurrence of an objectual variable within an opaque construction cannot be bound by a quantifier outside the construction.
- (P3) Modal constructions are opaque.
- (C2) Objectual quantification into modal constructions is illegitimate.

This conclusion was, of course, violated in Ruth Marcus’s systems of quantified modal logic. With this in mind, Quine published a short article in 1947, ‘The Problem of Interpreting Modal Logic’,⁹ in which he reiterated his earlier conclusion and explicitly mentioned Ruth Marcus as one to which it applies.¹⁰ Although Quine’s arguments were mistaken, they were enormously influential, and they baffled large numbers of the profession for decades.

Fortunately, thanks in large part to recent work by David Kaplan,¹¹ Ali Akhtar Kazmi,¹² and Mark Richard,¹³ we can now clearly see where they went wrong. Quine’s premises 1 and 2 are unjustified, and indeed false.¹⁴ I won’t go into a detailed explanation of this except to reiterate a certain point made by David Kaplan. Kaplan observed in his 1986 paper, ‘Opacity’, that it follows from Quine’s characterization of a purely designative occurrence of a singular term that **some** occurrences of such terms in opaque contexts must fail to be purely designative; but it does not follow

that **all** occurrences of singular terms in such contexts fail to be purely designative. If there are different kinds of singular terms – e.g. Fregean definite descriptions, proper names, individual variables – then it may be that occurrences of certain of these kinds fail to be purely designative within a given type of opaque construction, while occurrences of other kinds of singular terms remain purely designative. For example, one may have an analysis in which occurrences of Fregean definite descriptions within modal constructions are not purely designative,¹⁵ even though occurrences of names and variables are purely designative.¹⁶ Or, one may propose an analysis in which neither occurrences of names nor occurrences of descriptions in propositional attitude constructions are purely designative,¹⁷ even though occurrences of individual variables in such constructions are purely designative. As Mark Richard and Ali Akhtar Kazmi have made clear, one can even invent constructions into which objectual quantification makes sense despite the fact that occurrences of objectual variables within such constructions are not always purely designative.¹⁸ In sum, there simply is no **logical** or **semantic** problem about quantifying into opaque constructions in general.

None of these errors in Quine's argument depends on special features of modality, or the behavior of names in modal contexts. However, quantified modal logic was Quine's primary target, and the argument itself tended to get confused (both by Quine and by others) with a different criticism that was special to modality, namely the (equally mistaken) view that quantified modal logic was committed to an objectionable form of essentialism. Thus it is understandable that the initial responses to the argument focused on the special case of modality.

Quine's 1947 paper attacking the legitimacy of quantifying into modal constructions was quickly followed by a pair of responses by Arthur Smullyan in 1947 and 1948, and a further response by Frederick Fitch in 1949. The crucial point common to these responses was a sharp distinction between definite descriptions and genuine names. Smullyan and Fitch maintained that coreferential names are substitutable in modal constructions without change in truth value, whereas codesignative descriptions in general are not. They also accepted a corollary of this point, namely the claim that where α and β are genuine names, the sentence $\alpha = \beta$ is, if true, necessarily true. They recognized, of course, that an analogous point does not hold for definite descriptions. In fact, both Smullyan and Fitch denied that definite descriptions are singular terms at all, analyzing them instead as incomplete symbols, along Russellian lines.¹⁹ Their basic criticism of Quine was that his argument wrongly treated definite descriptions as if they were genuine names, despite the fact that the two are logically quite

different. Indeed, with definite descriptions not being counted as singular terms at all, the modal logician is free to restrict the class of closed singular terms to genuine names, in which case modal constructions won't count as opaque in the sense needed in Quine's argument.

There is no question, then, that Smullyan and Fitch regarded genuine names as fundamentally different from definite descriptions. Moreover, they regarded the behavior of the two in modal constructions as showing this. Neither Smullyan nor Fitch had the fundamental semantic notion of the referent of a term at a world, let alone the concept of rigid designation – i.e. the concept of a term that refers to the same thing at all worlds. Nevertheless, their recognition of the logical properties of genuine names in modal constructions led them to treat names in the way that one would treat them if one explicitly recognized them to be rigid designators. In this sense, which is the sense that applies to Ruth Marcus in her 1961 article, they can be credited with an **implicit** recognition that genuine names are rigid designators. In his 1947 review of Quine, Smullyan adds to this the claim that coreferential names are **synonymous**, which strongly suggests that genuine names have no meaning apart from their referents, another view later endorsed by Marcus.

This was the point on which Smullyan and Fitch were criticized by Alonzo Church in one of his typically insightful reviews in *The Journal of Symbolic Logic*. Reviewing Fitch's article in 1950, Church says that Fitch "*holds (with Smullyan) that two proper names of the same individual must be synonymous. It would seem to the reviewer that, as ordinarily used, 'the Morning Star' and 'the Evening Star' cannot be taken to be proper names in this sense; for it is possible to understand the meaning of both phrases without knowing that the Morning Star and the Evening Star are the same planet. Indeed, for like reasons, it is hard to find any clear example of a proper name in this sense.*"²⁰ In this passage, Church uses the point about synonymy, and the meaning of proper names, to raise a critical issue about the discussions of Smullyan and Fitch. Both Smullyan and Fitch assumed that there is a class of singular terms – which I have been calling "genuine names" – that function exactly as what Russell called **logically proper names**, save for the fact that the referents of these names are not restricted to objects of direct Russellian acquaintance. Moreover, they seemed to suggest that at least some uses of **ordinary proper names** might qualify as names in this sense. **However, they did not present any systematic examination of our use of ordinary proper names, nor did they produce a battery of arguments supporting their contentions.** Because of this, it was inevitable that many readers of their discussions would retain substantial, and indeed unanswered, doubts about whether

names as we ordinarily use them qualify as **genuine names** in their sense.

Much the same can be said of Ruth Marcus's discussion of names in her 1961 article, "Modalities and Intensional Languages." As I indicated before, the discussion of names in the article is short, limited to just a few pages. The main themes of the article were first, that intensionality and extensionality come in degrees, and so there is no simple intensional/extensional distinction, and second, that Quine's attacks on modality in general, and quantifying into modal constructions in particular, are mistaken. The topic of names comes up, as it did with Smullyan and Fitch, in the course of answering Quine. In her discussion, Marcus reiterates the central points of Smullyan and Fitch – namely that (i) coreferential names are substitutable in modal contexts without change in truth value whereas descriptions generally are not, (ii) identity statements involving proper names are necessary if true, (iii) names are not equivalent to descriptions, (iv) descriptions are not genuine singular terms, (v) proper names have no meanings over and above their referents, and (vi) coreferential names have the same semantic content, and are substitutable for one another in all nonquotational contexts.²¹

It should be noted that although Marcus's discussion of these points is brief, it is more detailed and explicit than those of Smullyan and Fitch. For example, in discussing the necessity of identity statements involving genuine singular terms, she says that true statements of identity "**must be tautologically true or analytically true**".²² She also holds that only genuine singular terms can flank the identity sign, and that the terms involved in a true statement of identity **must be intersubstitutable not just in modal constructions, but in every construction, including, presumably, attitude constructions such as those involving belief or knowledge**.²³ The idea here, I take it, is the familiar Russellian view that since the meaning of a genuine singular term is its referent, any construction in which the meaning of the whole is a function of the meanings of its parts is one in which substitution of coreferential singular terms must preserve meaning, and hence truth value. Marcus treats names as genuine singular terms.

In the text of her 1961 article, it certainly seems that when she speaks of names, Marcus means ordinary proper names. Nevertheless, essentially the same doubts that Church raised against Smullyan and Fitch arise against Marcus, and remain similarly unanswered. These doubts come up in a somewhat veiled way at one point in the discussion of her paper that occurred in 1962 at the Boston Colloquium for the Philosophy of Science.²⁴

Kripke (who was an undergraduate in the audience): *Forgetting the example of numbers, and using your interpretation of quantification – there's nothing seriously wrong with it at all – does it not require that for any two names, 'A' and 'B', of individuals, 'A = B' should be necessary, if true at all? And if 'A' and 'B' are names of the same individual, that any necessary statement containing 'A' should remain necessary if 'A' is replaced by 'B'?*

Marcus: *We might want to say that for the sake of clarity and ease of communication, it would be convenient if to each object there were attached a single name. But we can and we do attach more than one name to a single object. **We are talking of proper names in the ideal sense, as tags, and not descriptions.** Presumably, if a single object had more than one tag, there would be a way of finding out such as having recourse to a dictionary or some analogous inquiry which would resolve the question as to whether the two tags denote the same thing. If 'Evening Star' and 'Morning Star' are considered to be two proper names for Venus, then finding out that they name the same thing that 'Venus' names is different from finding out what is Venus's mass, or its orbit. It is perhaps admirably flexible, but also very confusing, to obliterate the distinction between such linguistic and properly empirical procedures.*" [My emphasis]²⁵

Note the echo of Church here.²⁶ It is, I think, noteworthy that we find in this passage a hedged reference to "names in the ideal sense", and to the results of consulting a dictionary as opposed to invoking what Marcus calls "properly empirical procedures." The passage seems to suggest that it is to some degree an open question whether our ordinary use of proper names is one in which they are names in the "ideal sense" of Marcus's semantic theses. **Although I think her intention in the paper was to take ordinary proper names to be names in the ideal sense, this cautious qualification seems to reflect an awareness of the continuing relevance of Church-like doubts, and the lack of a battery of arguments showing that ordinary proper names really do have the semantic properties required by the Smullyan–Fitch–Marcus response to Quine.**

So much for the historical background. We are now ready to examine Smith's contention that six fundamental theses of what he calls "the new theory of reference" were introduced by Ruth Marcus. In evaluating Smith's claims, I will put aside the qualification just noted and interpret Marcus, as well as Smullyan and Fitch, as suggesting that ordinary proper names are genuine names, or names "in the ideal sense."

Smith's first claim is that Marcus introduced the idea that proper names are not abbreviated or disguised descriptions, but rather are directly referential. This is false. **Although Marcus did regard names as directly referential, and did not take them to be disguised descriptions, she did not introduce the idea; nor did she claim to.** As we have seen, Smullyan and Fitch both invoked that idea in earlier responses to Quine that Marcus took herself to be repeating and elaborating.^{27,28}

Smith's second claim is more elusive. He introduces the claim by saying, "*A second idea that Marcus introduces is that we can single out a thing by a definite description, but this description serves only to single it out, not to be strongly equatable with a proper name of that thing.*" The idea that we can single out a thing by a definite description is, of course, not new, and was not introduced by Marcus. The idea that a description which applies to a thing is not equivalent to a name of that thing was already covered in Smith's **first** contention – namely that Marcus supposedly introduced the idea that names are not abbreviated or disguised descriptions but rather are directly referential. So what **new** point is supposed to be covered by Smith's second contention? What is the **second** idea is Marcus supposed to have introduced?

Smith provides a clue when he says, "*This idea [namely the second idea allegedly introduced by Marcus] later became widely disseminated through Kripke's discussion of how reference-fixing descriptions are sometimes used to single out a thing as a bearer of a name, but that names are not disguised descriptions.*" Smith contrasts this means of reference fixing with the historical chain mechanism, describing the latter, and only the latter, as original with Kripke. Thus it appears that Smith's second contention is that Marcus introduced the idea that the reference of a name may be semantically fixed by a description, even though the description is not synonymous with the name.

If this is his contention, it is false. Here is the quote from Marcus that Smith gives to support his point.

It would also appear to be a precondition of language [especially assigning names] that the singling out of an entity as a thing is accompanied by many . . . unique descriptions, for otherwise how would it be singled out? But to assign a proper name is different from giving a unique description. (Bracketed words above inserted into the text by Smith.)

The problem here is that there is no way to get from this brief remark to the doctrine that sometimes the referent of a name is semantically fixed by an associated definite description. To see this, one must be clear what the content of that doctrine really is. It is not just that sometimes, or as Marcus seems to think, always, when we have an individual in mind for which we have a name, or to which we want to assign a name, we also have one or more descriptions that we are ready to apply to the individual. Rather, a specific description must, **as a matter of semantics**, be linked to the name. This means that if the referent of a name is semantically fixed by a certain description, then being a competent speaker who understands the name will involve knowing that if the name has a referent at all, it must be one that satisfies the description. Similarly, if a name *N* has its referent semantically fixed by a description *D*, then one who understands the sentence "*If *N* exists,*

then *N* is *D*” will know, without empirical investigation, that it expresses a truth. Finally, if one later finds that the description one associated with the name fails to pick out anything, or fails to pick out the individual one had in mind, then it will follow that the name failed to refer, or at least failed to refer to the individual one had in mind. None of this is remotely suggested in the quotation from Marcus.

The reason it isn’t is that Marcus didn’t have the doctrine in mind, as can be seen by quoting the full Marcus text from the beginning of the relevant paragraph, without ellipsis, or insertion of Smith’s own words.

That any language must countenance some entities as things would appear to be a precondition for language. But this is not to say that experience is given to us as a collection of things, for it would appear that there are cultural variations and accompanying linguistic variations as to what sorts of entities are so singled out. It would also appear to be a precondition of language that the singling out of an entity as a thing is accompanied by many – perhaps an indefinite number – of unique descriptions, for otherwise how would it be singled out? But to assign a thing a proper name is different from giving a unique description.²⁹

What immediately follows in Marcus’s text is an example in which we theorists assign **random numbers as names** for the entities singled out as things by a given culture.³⁰ These numbers are not intended as examples of names whose referents are semantically fixed by descriptions. On the contrary, Marcus calls such names “tags” and says they have no meaning.

Marcus’s point in the passage was not to sketch any particular theory about how names get their reference, but simply to distinguish names from descriptions. What she was really saying was that despite the fact that recognizing something as a thing presupposes a readiness to apply descriptions to it, nevertheless we have a linguistic device, the proper name, which allows us to refer to a thing without describing it. **There is nothing here about semantic mechanisms by which the referents of names are fixed.**

Smith’s third contention is that Marcus introduced “the famous modal argument for the thesis that proper names are directly referential rather than disguised contingent descriptions.” Now Marcus did hold that names and descriptions typically behave differently in modal constructions, and so cannot be regarded as equivalent. Moreover, it is reasonable to take this as a version of “the modal argument”, later made famous by Kripke. However, it was not **introduced** by Marcus, since Fitch and Smullyan made the same point earlier. It seems to me that all three of these philosophers deserve a degree of recognition that they are often not given.

However, one should not lose sight of certain factors that made Kripke’s presentation of the modal argument so compelling, whereas the others had not been. One such factor was the context of Kripke’s presentation of the

modal argument in conjunction with a whole battery of other arguments and significant distinctions, all designed to undercut description theories of proper names. To take one example, many philosophers find it much easier to accept the claim that coreferential proper names are substitutable without change in truth value in modal constructions than to accept the claim that they are similarly substitutable in all constructions, including propositional attitude ascriptions. **By linking the two claims, Marcus made objections to the latter seem like objections to the former; by separating them, Kripke make the claim about the substitutivity of names in modal constructions more palatable.**³¹

Another point to keep in mind is that Kripke's presentation of the modal argument was not limited to the behavior of names in modal constructions, but was explicitly concerned with the evaluation of **simple sentences** (free of modal operators) at alternative possible worlds.³² The basic intuition tapped by Kripke's version of the modal argument was not only about the truth value of modal sentences, like *Necessarily Aristotle was a philosopher*, but also about the truth value of simple sentences, such as *Aristotle was a philosopher*, when evaluated at alternative worlds. This not only added depth and plausibility to the discussion but also rendered the modal argument immune to certain types of objection.³³

Smith's fourth contention has to do with the necessity of identity. He says:

This modal argument goes back to Marcus's formal proof of the necessity of identity in her extension of S4 (Barcan, 1946; 1947), which is a fourth component she introduced into the New Theory of Reference. She showed that

$$(T) (x = y) \equiv \text{necessarily } (x = y)$$

is a theorem of QS4, QS4 being her quantificational extension of Lewis's S4. ... Since identities are necessary, a failure of intersubstitutivity in modal contexts will show that a proper name does not express the relevant descriptive sense.

There are two problems here. First, the priorities are wrong. We do not accept the modal argument because we know antecedently that identities involving ordinary coreferential names are necessary. Rather, we recognize these identities as necessary because the modal argument convinces us that ordinary names are rigid designators.³⁴ Second, the version of the necessity of identity proven by Marcus involved only variables, and had nothing to do with proper names.

Here it is crucial to distinguish the thesis (NI-1), derived by Marcus in her 1947 paper, from the theses (NI-2) and (NI-3).

- (NI-1) $(x)(y)$ (if $x = y$, then necessarily $x = y$)
- (NI-2) for all proper names **a** and **b**, if **a = b** is true then **necessarily a = b** is true.
- (NI-3) for all singular terms **a** and **b** (including singular definite descriptions), if **a = b** is true then **necessarily a = b** is true.

Theses (NI-1) and (NI-2) are true; whereas thesis (NI-3) is false, at least in formal languages in which the class of singular terms includes Fregean definite descriptions. What must be noticed is that the quantificational version (NI-1) of the necessity of identity, articulated and derived by Marcus, no more provides a direct route to the **true** thesis (NI-2) involving ordinary proper names than it provides a direct route to the **false** thesis (NI-3). It simply leaves the status of these further theses open. For this reason it is just plain wrong to cite Marcus's early systems of quantified modal logic as introducing the version – (NI-2) – of the necessity of identity that corresponds to the modal argument.

I should mention that, historically, there was a strong tendency, shared not only by those who accepted NI-1, but also those who rejected it, as well as those, like Quine, who rejected quantifying-in entirely, to think that if NI-1 was true, then NI-2 and 3 must also be true. I suspect that one important reason for this was the equally widely shared, and equally mistaken conviction that the intelligibility of objectual quantification depended upon universal instantiation and existential generalization being universally truth-preserving, where genuine singular terms are involved. In the hands of Marcus, Smullyan and Fitch, this led to the view that the necessity of identity not only **required** coreferential names to be substitutable in modal contexts, but also **prevented** us from taking definite descriptions to be singular terms. In the hands of their opponents, who were more inclined to accept descriptions as singular terms, it was taken as **refuting** the necessity of identity. What is interesting here is the **false presupposition shared by both sides of the debate**, tying the intelligibility of quantification to familiar extensional rules of inference. **It seems plausible that what ultimately lay behind this error was an overly proof-theoretic perspective, and insufficiently developed model-theoretic conception of intensional logic according to which it is the semantics of various intensional constructions, plus the usual Tarski-like clauses for quantifiers, that have priority and determine which rules of inference are valid.** Now that we have achieved the appropriate semantic perspective, there is no longer any excuse for running NI-1, 2, and 3 together, or for thinking that the truth of one establishes the truth of the others.

As for the thesis, (NI-1), involving variables, I want to acknowledge that there is a way of viewing it as a genuine contribution by Marcus to contemporary theories of reference. One can think of it as the material-mode counterpart of the semantic thesis that individual variables are rigid designators. Although Marcus herself **did not** explicitly characterize variables in this way, and many years later suggested a more indirect way of understanding quantification via substitution of proper names, her original thesis (NI-1) can be interpreted as providing a basis for characterizing **variables** as rigid designators.³⁵

This brings us to Smith's contention that a fifth contribution of Marcus to the so-called New Theory of Reference was the concept of rigid designation. I have just indicated that there is a sense in which Marcus can be viewed as providing a material-mode basis for taking variables to be rigid (relative, of course, to assignments of values). Moreover, she can be seen, following Smullyan and Fitch, as implicitly treating proper names as rigid. **However none of these philosophers had the concept of a rigid designation.** This concept presupposes the more general notion of the referent of a term at a world. Neither Smullyan, Fitch, nor Marcus in her papers in the 1940's, provided any semantic framework for modal systems, let alone one involving this notion. Although an elementary semantic formalization is given by Marcus in her 1961 article, it did not invoke the notion of a referent of a singular term at a world, and did not make room for the full-blown concept of rigid designation as we now understand it. Rather, this semantic notion, though anticipated by Marcus, seems to be due to Kripke, and was present in his treatment of variables as rigid in his 1959, 'A Completeness Theorem in Modal Logic'.³⁶ Smith's characterization of Kripke as contributing only the name 'rigid designation' for a concept discovered by Marcus is a grotesquely inaccurate caricature.

Marcus did, of course, explicitly use the notion of rigid designation in her paper 'Essential Attribution,' delivered at the December 1970 meetings of the APA.³⁷ Smith cites this paper, saying, "*Marcus notes in her 1970 APA paper, 'Essential Attribution', presented at a symposium at which Kripke was one of the symposiasts, that "individual names don't alter their reference, except to the extent that in [respect of] some worlds they may not refer at all".*"³⁸ Why does Smith feel that it is important to mention that Kripke was present at this symposium? Is he suggesting that Kripke's presence at the symposium supports the contention that he got the concept of rigid designation from Marcus? If so, why doesn't Smith also mention that the symposium occurred **11 months after Kripke had presented the three lectures of Naming and Necessity at Princeton University?**

Smith's final contention about the extent of Marcus's contributions to non-Fregean theories of reference involves a pair of epistemological points he derives from the following one and one half sentence quote from Marcus's 1961 paper.

You may describe Venus as the evening star, and I may describe Venus as the morning star, and we may both be surprised that, as an empirical fact, the same thing is being described. But it is not an empirical fact that

(17) *Venus I Venus.*³⁹

Smith derives two conclusions from this brief passage. His first conclusion is that Marcus introduced the idea of a posteriori necessity into contemporary philosophy of language, since on her view the sentence *Hesperus I Phosphorus* is necessary, even though it is clearly a posteriori. Smith's second conclusion from the passage is that in it Marcus provided an epistemological argument against description theories of names to supplement the modal argument. Both of these claims are false.

The first thing to do in showing this is to obtain an accurate quotation of the passage from Marcus. In presenting the passage, Smith breaks Marcus's final sentence in half, inserts a period immediately after her example sentence *Venus I Venus*, and omits, without any indication of ellipsis, the final half of her sentence. Here is the passage as it appears in Marcus.

You may describe Venus as the evening star, and I may describe Venus as the morning star, and we may both be surprised that, as an empirical fact, the same thing is being described. But it is not an empirical fact that

(17) *Venus I Venus*

and if 'a' is another proper name for Venus that

(18) *Venus I a*⁴⁰ [My emphasis]

What is Marcus saying here? She is saying that if *a* is any name for Venus, neither the sentence *Venus = Venus* nor the sentence **Venus = a** expresses "an empirical fact." If, as Smith maintains, Marcus is trying to make an epistemological point here, then by "an empirical fact" she must not mean "a contingent fact", for then there would be no epistemological point at issue. Rather, she must be taken to mean that these sentences do not express facts that are knowable only by empirical means. In other words they are knowable a priori. But if this is right, then true identity statements involving names are **not** characterized as examples of the necessary a posteriori, and Smith's contention that Marcus introduced this notion collapses.

It should be noted that Marcus **nowhere** in the article says that there are true identity statements which are knowable only a posteriori. On the

contrary, she says many things that strongly indicate the opposite. One remark that I cited earlier occurs in the paragraph immediately after the one just cited by Smith. There Marcus says “*What I have been arguing is that to say truly of an identity (in the strongest sense of the word) that it is true, it must be tautologically true or analytically true.*”⁴¹ Thus, according to Marcus true identity statements involving genuine names never express empirical facts, but rather are **tautologically**, or **analytically true**. Surely this is inconsistent with interpreting her as introducing the notion of necessary a posteriori identities. No author who was doing that would completely fail to use the notion *a posteriori*, while treating necessity, tautology, analyticity, and the notion of not expressing an empirical fact as if they were interchangeable.

This point is reinforced by other things that Marcus says. For example, two pages before the passage cited by Smith, she says the following about the identity sentence *alb* (which is example 13 in her paper).

*Now if (13) is such a true identity, then a and b are the same thing. (13) doesn't say that a and b are two things that happen, through some accident, to be one. True, we are using two different names for that same thing, but we must be careful about use and mention. If, then, (13) is true, it must say the same thing as (14) ala.*⁴² [My emphasis]

The point to note here is that if $a = a$ and $a = b$ say the very same thing, then surely they express the same fact, in which case the fact expressed by one must be knowable a priori only if the fact expressed by the other is. **Hence, on the view articulated by Marcus, true identity statements involving names are knowable a priori.**

Finally, you may recall that according to Marcus, coreferential proper names “must be intersubstitutable in every context.”⁴³ Thus, if prior to the relevant astronomical discovery Jones knew that Hesperus was identical with Hesperus, on the basis of reflection alone, then he also knew that Hesperus was identical with Phosphorus, by reflection alone – assuming that ‘Hesperus’ and ‘Phosphorus’ really are names in Marcus’s sense. For all these reasons, it is as clear as anything can be that Marcus did **not** in her 1961 article embrace the notion of necessary a posteriori identities.

What about Smith’s contention that Marcus provided an epistemological argument against description theories of names to supplement the modal argument, and to rule out the possibility of modally rigid descriptive senses? Recall the passage cited.

You may describe Venus as the evening star, and I may describe Venus as the morning star, and we may both be surprised that, as an empirical fact, the same thing is being described. But it is not an empirical fact that

(17) *Venus I Venus.*

Smith claims to find in this passage an argument that where *D* is a description associated with a name *N*, the proposition expressed by *N is D* is not knowable a priori, contrary to the description theory.

But there is no such argument. Moreover, once again what Smith says about the passage bears little relation to what is actually in it. Here is what Smith says:

If 'Venus' expresses the modally stable sense expressible by 'whatever is actually the evening star and morning star', then the persons designated by 'you' and 'I' in the passage quoted from Marcus's article should be able to know a priori, simply by reflection upon the semantic content of the expressions 'Venus', 'the morning star' and 'the evening star' that Venus is both the morning star and the evening star. The fact that they cannot know this indicates that 'Venus' does not express the modally stable sense expressed by 'whatever is actually the evening star and morning star'.

Notice that in contrast to Marcus's passage, Smith's reconstructs the example as one in which you and I both associate with 'Venus' the same description – *the x: actually x is the morning star and x is the evening star*. If we really did this, then, provided that we thought that we were successfully describing something, we certainly would not be surprised to find out that the morning star is the evening star (as Marcus says we are). Consequently, Smith's argument is his own invention; it is not in Marcus. In addition, the argument is no good. It assumes that if an expression α means the same as the description *the x: actually x is the morning star and x is the evening star*, then, the claim expressed by $\alpha = \text{the } x: \text{actually } x \text{ is a morning star and } x \text{ is an evening star}$ must be knowable a priori. But this is false, since that claim entails that there is something that is both the morning star and the evening star, it **cannot** be known a priori. Because of this the fact that it is not knowable a priori that Venus is both the morning star and the evening star does not establish that 'Venus' does not have the descriptive meaning under consideration. As a result, Smith's argument fails.⁴⁴

There is, however, a line of argument that can be constructed from elements in Marcus for the conclusion that neither the proposition that Hesperus is the evening star nor the proposition that Phosphorus is the morning star is knowable a priori. Ironically, however, the argument does no good for Smith, and cannot be used as an argument against descriptive senses. Recall the last line, omitted by Smith, of the passage cited from Marcus. "*But it is not an empirical fact that Venus I Venus and if 'a' is another proper name for Venus that Venus I a.*" If, as I have argued, Marcus is here expressing the view that identities between coreferential proper names do not express empirical facts, and so do not require empirical investigation to be known, then we can construct the following argument, which does not appear in her paper, on her behalf:

- (P1) It is knowable a priori that Hesperus = Phosphorus.
- (P2) If it were also knowable a priori both that Hesperus is the (actual) evening star (if such exists) and that Phosphorus is the (actual) morning star (if such exists), then it would be knowable a priori that the (actual) evening star is the (actual) morning star (if there are such things).
- (P3) It is not knowable a priori that the (actual) evening star is the (actual) morning star (if there are such things).
- (C1) So it is not the case that it is knowable a priori both that Hesperus is the (actual) evening star (if such exists) and that Phosphorus is the (actual) morning star (if such exists).
- (P4) If one of these were knowable a priori, then the other would also be knowable a priori.
- (C2) Therefore neither is knowable a priori.

The first premise in this argument is, of course, incompatible with Smith's claim that for Marcus, the proposition that Hesperus is Phosphorus is an example of the necessary a posteriori. Thus, the argument is no good to him. However, given Marcus's treatment of proper names as Russellian logically proper names, and hence as supporting substitution without change of meaning in any non-quotational context, (P1) is plausible, as are the other steps in the argument.⁴⁵ Moreover, the conclusion is clearly incompatible with the description theorist's claim that the name 'Hesperus' has the same sense as 'the (actual) evening star', or any other plausible description that speakers might associate with the name.

Why then isn't this precisely the epistemological argument against the description theory that we are looking for? **The reason it isn't is that its first premise, namely that it is knowable a priori that Hesperus is Phosphorus, presupposes a prior rejection of the description theory. The basis for assuming this premise is simply a prior acceptance of Millianism. Given this, we can use the premise to draw out an epistemological consequence of Marcus's position, but we cannot use it in an argument against descriptivism.** To get an epistemological argument against descriptivism one would have to argue directly, without appeal to any Millian premises, that one cannot know a priori that N is D, for relevant names N and descriptions D. Marcus does not do this. Thus, there is no epistemological argument in her paper which can be used to supplement the modal argument against the description theory.

This concludes my critique of Smith's major contentions. There are a few other matters I would go into if there were time.⁴⁶ But since there is not, I will try to sum up. On the positive side, we can see in the writ-

ings of Marcus, Fitch and Smullyan, significant anticipations of some of the central theses of contemporary non-Fregean theories of reference. First, Marcus's quantified version of the necessity of identity anticipates the contemporary view that variables are rigid designators, with respect to assignments of values. Second, the claim, by Smullyan, Fitch, and Marcus, that substitution of coreferential names in modal constructions preserves truth value anticipates the view that ordinary proper names are rigid designators. Third, the use of this feature of names to discriminate them from some descriptions anticipates certain aspects of Kripke's modal argument against description theories.

However it is also important to notice how much of the development of contemporary theories of reference by Kripke and others is lacking from the earlier discussions of Marcus, Smullyan, and Fitch. First, we do not find Kripke's important distinction between the different ways that description theories can be understood – as theories of meaning vs theories of reference fixing. Second, apart from the modal argument, we do not find analogs to the battery of epistemological and semantic arguments against description theories that are given in *Naming and Necessity*. Third, there is no positive conception of how reference is determined – either by historical chain or by using descriptions to semantically fix reference. Fourth, there are no analogs of Kripke's doctrines of the necessary a posteriori and the contingent a priori. Fifth, the discussions of names are not set in the context of a wider theory of language, including, for example, natural kind terms. Sixth, there is no recognition that arguments stronger than those needed to establish rigidity are needed to support the claim that names are directly referential.⁴⁷ As a result, relatively uncontroversial claims, like the substitutability of coreferential names in modal constructions, were linked with highly controversial claims, like the substitutability of such names in all constructions, and thereby were rendered less persuasive.

Don't get me wrong. I am not criticizing Marcus, Smullyan or Fitch for not having written *Naming and Necessity*. On the contrary, they should be praised for their prescient insights, despite the fact that they were not attempting anything so systematic or far-reaching. What I have tried to show is that providing them with proper credit does not result in a reassessment of the seminal role of Kripke and others as primary founders of contemporary nondescriptivist theories of reference. In fact, I think Smith does Kripke a grave injustice. Smith writes as if Kripke appropriated the major views expressed in *Naming and Necessity* from Marcus while denying her proper credit, and suggests that it is a scandal that the rest of the profession was thereby duped. We have not been duped; there was no misappropriation. Rather, what Smith has done is to mistakenly read

many of Kripke's arguments and doctrines back into Marcus, and then to insinuate that Kripke is guilty of theft. This, it seems to me, is shameful. If there is any scandal here it is that such a carelessly and incompetently made accusation should have been given such credence.

You may recall that, in hyping his accusations, Smith claimed to be correcting a misunderstanding in the recent history of philosophy "*no less important than correcting the misunderstanding in a hypothetical situation where virtually all philosophers attributed the origin of the Theory of Forms to Plotinus.*" I hope that by now it is apparent how wildly exaggerated this remark really is. I also hope no one will be distracted by Smith's overheated rhetoric and irresponsible sowing of discord from the truly outstanding contributions of both Marcus and Kripke. Both have done work of great importance that should be appreciated and celebrated. They were never competitors in the past, and there is no need now to tear one down to elevate the other.⁴⁸

NOTES

¹ *Synthese*, XIII, Dec. 1961, 303–22. This paper is reprinted in Ruth Barcan Marcus, *Modalities*, (New York and Oxford: Oxford University Press), 1993. Citations from the paper will be from *Modalities*.

² R. C. Barcan (Marcus), 'A Functional Calculus of First Order Based on Strict Implication', *Journal of Symbolic Logic*, **11**, 1946, 1–16. Also, R. C. Barcan (Marcus), 'The Deduction Theorem in a Functional Calculus of First Order Based on Strict Implication', *The Journal of Symbolic Logic* **11**, 1946, 115–8.

³ R. C. Barcan (Marcus), 'The Identity of Individuals in a Strict Functional Calculus of Second Order', *The Journal of Symbolic Logic* **12**, 1947, 12–5.

⁴ In 'Modalities and Intensional Languages', pages 9 and 10, Marcus refers to theorem 2.32* – $\Box(\beta_1 \mid \beta_2) \equiv (\beta_1 \mid \beta_2)$ – of her 1947 paper as, in effect, establishing the necessity of identity. (The symbol ' \mid ' is the (strict) identity predicate. The connective is strict equivalence, the terms are individual variables, and the theorem itself has the force of its universal closure.) Marcus derives this theorem in her quantified version of S_4 from her theorems 2.23 – $\Box(\beta_1 \mid_m \beta_2) \equiv (\beta_1 \mid \beta_2)$ – and 1.104* – $\Box\Box A \equiv \Box A$. (The symbol ' \mid_m ' stands for the material identity predicate. Material identity and strict identity are defined predicates that turn out to be provably strictly equivalent in Marcus's S_4 .) The point to note here is that Marcus's derivation of the necessity of identity depends on a controversial principle about the iterability of the necessity operator, which is not something that the thesis itself intuitively requires. (The proof also utilizes the Barcan and converse Barcan formulas. See below.) If variables are treated as rigid designators – with respect to assignments – as in the now standard Kripke-style semantics for modal systems, the above version of the necessity of identity falls out automatically from the semantics without any special assumptions about the accessibility relation, or the corresponding axiomatic modal systems.

In this connection, it is worth noting another theorem that Marcus refers to in 'Modalities and Intensional Languages' in her discussion of the necessity of identity. This is theorem 2.33* of her 1947 paper – $(\beta_1 \mid_m \beta_2) \equiv (\beta_1 \mid \beta_2)$. This establishes the strict equivalence of

Marcus's two forms of identity. (Theorem 2.32*, and hence the S_4 premise guaranteeing the iterability of the necessity operator, is used in the proof of this.) The theorem itself is closely related to the necessity of identity. This can be seen as follows: First, we use the definition of 'I' (strict identity) to give the import of the theorem as (i).

$$(i) \quad x \text{ I}_m y \equiv (F)(Fx \supset Fy)$$

Next we apply the definition of strict implication to give us (ii).

$$(ii) \quad x \text{ I}_m y \equiv (F) \Box (Fx \supset Fy)$$

The combination of (ii) together with the second order Barcan formula – $\Diamond \exists \phi A \supset \exists \phi \Diamond A$ – and the second order converse Barcan formula – $\exists \phi \Diamond A \supset \Diamond \exists \phi A$ – yields (iii).

$$(iii) \quad x \text{ I}_m y \equiv \Box (F)(Fx \supset Fy)$$

Finally, we apply the definition of 'I_m' (material identity) to get (iv).

$$(iv) \quad x \text{ I}_m y \equiv \Box x \text{ I}_m y$$

Although this might be taken to be a version of the necessity of identity, as before the proof relies on controversial modal principles – including the second order Barcan and converse Barcan formulas. These principles are not intuitively required by the necessity of identity itself, and are dispensable if variables are taken as rigid designators in the semantics of all the modal systems. (I am indebted to Saul Kripke for a discussion of the material in this paragraph, especially the role of the second order Barcan and converse Barcan formulas.)

The second order Barcan and converse Barcan formulas also seem to be involved in the proof of theorem 2.23 – $\Box (\beta_1 \text{ I}_m \beta_2) \equiv (\beta_1 \text{ I}_m \beta_2)$ – which Marcus uses in her proofs of both theorem 2.32* and 2.33*. Note, the definitions of material identity and strict identity are $(F)(Fx \supset Fy)$ and $(F) \Box (Fx \supset Fy)$ respectively. Given the two second order Barcan formulas, the formulas $\Box (F)(Fx \supset Fy)$ and $(F) \Box (Fx \supset Fy)$ are strictly equivalent, which establishes 2.23.

Finally, it may be worth pointing out why the necessity of identity cannot be derived in the now familiar way in Marcus's systems without the help of some controversial supplementary principles like those we have been appealing to. We may begin by attempting a derivation from theorem 2.4 of her quantified extension of S_2 .

- (i) $x \text{ I} y \supset (F)(Fx \supset Fy)$ (Theorem 2.4 of Barcan 1947)
- (ii) $x \text{ I} y \supset (\lambda z (\Box x \text{ I} z) x \supset \lambda z (\Box x \text{ I} z) y)$ (From (i) and 2.2 of Barcan 1947)
- (iii) $x \text{ I} y \supset (\Box x \text{ I} x \supset \Box x \text{ I} y)$ (From (ii) and 2.3 of Barcan 1947)
- (iv) $x \text{ I} y \supset (\Box x \text{ I} x \supset \Box x \text{ I} y)$

Now all we need to establish is $\Box x \text{ I} x$, and we will have the desired result. But establishing this is problematic. Suppose we proceed as follows:

- (v) $Fx \supset Fx$ Axiom Schemata 2, 3, and 5 of the first Barcan 1946 paper)
- (vi) $(F)(Fx \supset Fx)$ (From (v) by universal generalization)
- (vii) $x \text{ I} x$ (From (vi) by the definition of 'I')

If S_2 had necessitation we could derive $\Box (x)(x \text{ I} x)$. But S_2 does not have necessitation. Moreover, even if we could get $\Box (x)(x \text{ I} x)$, we would have to appeal to the converse Barcan formula to get the needed $\Box x \text{ I} x$, which has the force of $(x) \Box x \text{ I} x$.

In light of this we might try a different derivation. This time we start with Marcus's theorem 2.17.

- (i) $x \text{ I}_m y \supset \exists (F)(Fx \supset Fy)$ (Theorem 2.17 of Barcan 1947)
- (ii) $x \text{ I}_m y \supset \exists (\lambda z (\Box x \text{ I}_m z) x \supset \lambda z (\Box x \text{ I}_m z)y)$ (From (i) and 2.2 of Barcan 1947)
- (iii) $x \text{ I}_m y \supset \exists (\Box x \text{ I}_m x \supset \Box x \text{ I}_m y)$ (From (ii) and 2.3 of Barcan 1947)
- (iv) $x \text{ I}_m y \supset (\Box x \text{ I}_m x \supset \Box x \text{ I}_m y)$
- (v) $Fx \supset Fx$ (Axiom Schemata 2, 3, and 5 of the first Barcan 1946 paper)
- (vi) $\Box (Fx \supset Fx)$ ((v) plus the definition of strict implication)
- (vii) $(F) \Box (Fx \supset Fx)$ (From (vi) by universal generalization)
- (viii) $\Box (F)(Fx \supset Fx)$ (From (vii) plus the second order Barcan formula)
- (ix) $\Box x \text{ I}_m x$ (From (viii) plus the definition of 'I_m')
- (x) $x \text{ I}_m y \supset \Box x \text{ I}_m y$ (From (iv) and (ix))

As far as I can tell, this is the closest one can get to an unproblematic derivation of a version of the necessity of identity in Marcus's system. Although the derivation can be done in Marcus's quantified version of S₂, it uses "material identity" rather than "strict identity", and, most importantly, it requires the second order Barcan formula.

⁵ Arthur Smullyan, review of W. V. Quine, "The problem of interpreting modal logic." Quine's paper appeared in *The Journal of Symbolic Logic*, 12, 1947, 43–8. Smullyan's review appeared in *The Journal of Symbolic Logic*, 12, 1947, 139–41.

⁶ Arthur Smullyan, 'Modality and Description', *The Journal of Symbolic Logic*, 13, 1948, 31–7.

⁷ Frederic B. Fitch, 'The Problem of the Morning Star and the Evening Star', *Philosophy of Science*, 16, 1949, 137–41.

⁸ *The Journal of Philosophy*, Vol. XL, 1943, 113–27.

⁹ *The Journal of Symbolic Logic*, Vol. 12, 1947, 43–8.

¹⁰ In the 1947 article Quine gave a slightly different version of the argument, one which emphasized what he took to be the intimate connection between the logical content of objectual quantification and certain rules of inference – in particular existential generalization. We can reconstruct the basic idea as follows.

- (P1)a. An occurrence of an objectual variable within a certain construction is bindable by a quantifier outside the construction only if existential generalization from that position is universally truth-preserving.
- (P2)a. Existential generalization from the position of 'x' in a formula, (...x...), will be universally truth-preserving only if 'x' occupies a position which is transparent – only if for any pair α and β of coreferential singular terms the sentence, (... α ...), that results from substituting α for, 'x', is true iff the sentence, (... β ...), that results from substituting β for 'x', is true. (For suppose that this were not so. Suppose that for some pair α and β of coreferential singular terms the sentence, (... α ...), is true whereas the sentence, (... β ...), is false. In such a situation, both the sentence [$\alpha = \beta$ & (... α ...)] and the sentence [$(\beta = \beta \ \& \ \sim (... \beta ...))$] are true. But then if existential generalization is universally truth preserving, $\exists x [x = \beta \ \& \ (... x ...)]$ and $\exists x [x = \beta \ \& \ \sim (... x ...)]$ must both be true, which is impossible.)

Combining these premises with (P3), plus the definitions of opacity and pure designation, produces the same results as above.

¹¹ 'Opacity', *The Philosophy of W. V. Quine*, Hahn and Schilpp (eds.), (La Salle Illinois: Open Court), 1986, 229–289.

¹² 'Quantification and Opacity', *Linguistics and Philosophy*, **10**, 1987, 77–100. See also, his 'Some Remarks on Indiscernibility', *Canadian Journal of Philosophy*, Supplementary volume 18, 1992, 167–78.

¹³ 'Quantification and Leibniz's Law', *Philosophical Review*, vol. 96, 1987, 555–78.

¹⁴ The same holds for premise P1a of the argument in footnote 10.

¹⁵ And do not support universally truth-preserving existential generalization.

¹⁶ And do support existential generalization.

¹⁷ And do not support existential generalization.

¹⁸ Richard, 'Quantification and Leibniz's Law'; Kazmi, 'Some Remarks on Indiscernibility'.

¹⁹ In addition, Smullyan explicitly maintained that existential generalization on a formula containing a modal operator is universally truth-preserving where names are involved, but fails to be so when the existentially generalized variable replaces a description rather than a name.

²⁰ Alonzo Church, review of Frederic B. Fitch, 'The problem of the Morning Star and the Evening Star', *The Journal of Symbolic Logic*, **15**, 1950, p. 63.

²¹ Point (vi) is explicit only in Marcus.

²² Page 12, in *Modalities*.

²³ See pages 10 and 14–15.

²⁴ 'Discussion of the Paper of Ruth Marcus', *Synthese*, **14**, 1962, 132–43. Reprinted in *Modalities*.

²⁵ Pages 33 and 34 of *Modalities*.

²⁶ It is significant that Marcus responds to a straightforward question about the necessity of identities involving names (and their intersubstitutability in modal constructions) with remarks about epistemology and synonymy. This reinforces the impression given by the text of her article that she thought of the view of names as mere tags (and hence as being synonymous if coreferential) as being inseparable from, and even the ground for, her views of the behavior of names in modal constructions. This linking of the modal status of names with controversial claims about their meaning and epistemology marks a very important contrast between Marcus's view and the view developed by Kripke in *Naming and Necessity*.

²⁷ Marcus's discussion of proper names occurs in the section of her paper devoted to answering Quine's objections to quantifying-in. She begins her discussion by saying "The rebuttals are familiar and I will try to restate some of them." [Page 10 in *Modalities*] Moreover, in a very closely related paper, 'Extensionality', *Mind*, Vol 59, 1960, pp. 55–62, Marcus briefly sketches a response to Quine's Morning Star–Evening Star example which is largely the same as the one she gives in 'Modalities and Intensional Languages'. The discussion in 'Extensionality' is prefaced by a footnote in which Marcus says that she is restating a point made by Fitch in his 1950 paper.

²⁸ Moreover, Smith's quote from Marcus on this point contains massive ellipsis, and gives a misleading picture of her discussion. Here is his quote.

But to give a thing a proper name is different from giving a unique description ... [An] identifying tag is a proper name of the thing. ... This tag, a proper name, has no meaning. It simply tags. It is not strongly equatable with any of the singular descriptions of the thing.

Here is the beginning of the passage quoted, without Smith's first ellipsis.

*But to assign a thing a proper name is different from giving a thing a unique description. For suppose we took an inventory of all the entities countenanced as things by some particular culture through its own language, with its own set of names and equatable singular descriptions, and suppose that number were finite (this assumption is for the sake of simplifying the exposition). And suppose we randomized as many whole numbers as we needed for a one-to-one correspondence, and thereby tagged each thing. This identifying tag is a proper name of the thing. [my emphasis] (p. 11 of *Modalities*)*

Marcus says that this identifying tag – **namely the number assigned to the object in our artificial, randomized assignment** – is a proper name. Clearly it is not an example of an ordinary proper name. Rather, Marcus seems here to be illustrating the theoretical possibility that we, as theorists, might introduce certain elements as mere tags.

The passage continues as follows:

*In taking our inventory we discovered that many of the entities countenanced as things by that language-culture complex already had proper names, although in many cases a singular description may have been used. This tag, a proper name, has no meaning. It simply tags. It is not strongly equatable with any of the singular descriptions of the thing ... (pp. 11 and 12 of *Modalities*)*

What is Marcus referring to in this passage when she says “This tag, a proper name, has no meaning”? Is it to the numbers of our randomized assignment, which have just been called both tags and proper names two sentences back? Is it to proper names in the language of the culture we are describing? Or is it to both? My guess is that the reference is probably to both. But if it is to both, we are not given an argument for taking the two to be on a par.

²⁹ Page 11 in *Modalities*.

³⁰ See note 28.

³¹ I do not object here to the substance of Marcus’s position, which is close to my own. Rather I am merely pointing out one reason why the modal argument seemed more persuasive, and was more widely accepted, when presented by Kripke.

³² See *Naming and Necessity*, Harvard University Press, Cambridge, Mass, 1980, pp. 61–2.

³³ Such as Dummett’s objection that proper names can be taken to be equivalent to descriptions that always take wide scope over modal operators. See Dummett, *Frege: Philosophy of Language*, Harper and Row, New York, 1973, pp 112–116.

³⁴ This is an important feature of Kripke’s version of the modal argument that does not seem present in Marcus’s version. Both Kripke and Marcus use modal properties of names to distinguish them from descriptions. However, the way they establish the modal properties of names is quite different. Kripke provides examples in which we evaluate simple sentences containing proper names (but no modal operators) at alternative possible worlds (counterfactual circumstances). He uses these examples to show that the referent of a name at one world is the same as its referent at other worlds, and hence that names are rigid. It then follows that identities involving names are necessary if true, and that coreferential names are intersubstitutable in modal constructions. Marcus, on the other hand, seems to think that these modal properties of names somehow follow from the quantified version of the necessity of identity, either by itself or in conjunction with her controversial view that names are “mere tags”.

³⁵ However, this contribution must be understood as subject to the qualification in footnote 4. An explicit semantic system in which variables are treated as rigid designators is given in Saul Kripke, ‘A Completeness Theorem in Modal Logic’, *The Journal of Symbolic Logic*, Vol. 24, Number 1, 1959, 1–14. (The paper was received by the journal in August of 1958.)

³⁶ *Ibid.*

³⁷ *Journal of Philosophy*, LXVIII, 1971, 187–202. This paper is reprinted in *Modalities*.

³⁸ The passage quoted by Smith is taken from page 61 of *Modalities*. Two points are of interest here. First, at this time Marcus had no objection to characterizing proper names as rigid designators, even though she presumably did not think that in doing so she was “assimilating them to some descriptions.” Second, in the passage from which this quote was taken, Marcus continues to express some ambivalence regarding the question of the extent to which names, as ordinarily used, are rigid designators. Thus, she ends the paragraph from which the quote was taken by saying, “*For those that are quick to argue that ordinary names cannot always be used in such a purely referential way, we can, in giving the interpretation, expand our lexicon to provide neutral, purely referential names where necessary.*” (p. 61 Marcus’s emphasis)

³⁹ Page 12, *Modalities*.

⁴⁰ Page 12, *Modalities*.

⁴¹ Page 12, *Modalities*.

⁴² Page 10, *Modalities*. The passage continues in a somewhat confusing way, with Marcus saying that therefore since (14) is “valid” (13) must be as well. She then adds that this was “*precisely the import of my theorem [of the necessity of identity]*”. Put aside that her theorem didn’t involve names at all. Surely we would now see her claims about (13) and (14) saying the same thing, and being jointly valid, as going well beyond the claim that they are necessarily equivalent. Of course, if – contrary to Smith’s thesis – Marcus was not carefully distinguishing necessity from logical validity, analyticity, and aprioricity, then her tendency in the article to slip from one to another is quite understandable.

⁴³ Page 10 of *Modalities*.

⁴⁴ Smith would have avoided this particular problem, while keeping somewhat closer to the passage in Marcus, had he attempted to construct an argument ruling out the possibility that some name α for Venus has, for some particular person, the sense of ‘the (actual) morning star’ while some name β has, for some person, the sense of ‘the (actual) evening star’. For example, consider the following:

- (P1) If the description theory is correct, and I semantically associate the name ‘Venus’ with the description ‘the (actual) evening star’, then I can know a priori the proposition I express by the sentence ‘Venus is the (actual) evening star, if there is such a thing’.
- (P2) If the description theory is correct, and you semantically associate the name ‘Venus’ with the description ‘the (actual) morning star’, then you can know a priori the proposition you express by the sentence ‘Venus is the (actual) morning star, if there is such a thing’.
- (C1) Thus, if the description theory is correct, then both the proposition that Venus is the (actual) evening star, if there is such a thing and the proposition that Venus is the (actual) morning star, if there is such a thing must be knowable a priori. Hence, if the description theory is correct, we can know a priori that the (actual) evening star is the (actual) morning star, if there are such things.
- (P3) But one cannot know this a priori.
- (C2) Therefore, the description theory is incorrect.

Still, this argument is invalid. Conclusion (C1) does not follow from (P1) and (P2); it is simply false. According to the description theory if you and I semantically associate different descriptions with the name ‘Venus’ then the name has different senses for us.

Because of this the proposition I express with the sentence *Venus is the (actual) evening star* is not the proposition you express by that sentence. Consequently, it would be correct for me to report, "I know a priori that Venus is the (actual) evening star, if there is such a thing, but I cannot know a priori that Venus is the (actual) morning star, if there is such a thing" while it would be correct for you to report the opposite. According to the description theory, there is no single interpretation of *Venus is the (actual) evening star, if there is such a thing* and *Venus is the (actual) morning star, if there is such a thing* according to which both are knowable a priori. Of course, the failure of this argument is not Marcus's responsibility; for there is no such argument in her paper.

⁴⁵ P₂ could be questioned on the grounds that it assumes some sort of closure principle for propositions knowable apriori – e.g. if A, B, and C are knowable apriori, and D is a consequence of A, B, C, then D is knowable apriori. I am not endorsing such a closure principle, or even P₂. Rather, I am trying to make the strongest argument one can, based on Marcus's text, for the conclusion that the propositions that Hesperus is the evening star and Phosphorus is the morning star are not knowable apriori.

⁴⁶ A case in point is Smith's uncomprehending criticism of the following remark of the undergraduate Saul Kripke in the 1962 'Discussion of the Paper of Ruth Marcus'.

The tags are the 'essential' denoting phrases for individuals, but empirical descriptions are not and thus we look to statements containing 'tags', not descriptions, to ascertain the essential properties of individuals. Thus the assumption of a distinction between 'names' and 'descriptions' is equivalent to essentialism. [My emphasis] (Page 34, Modalities)

Smith follows Marcus, 'A Backward Look at Quine's Animadversions on Modalities', reprinted in *Modalities*, 1993, 226–227, in seeing Kripke's remark as attributing to Marcus the absurd view that it is an essential property of an individual like Socrates that he was named 'Socrates' – i.e. the view that Socrates could not have existed without being named 'Socrates'. Smith then takes this as evidence that Kripke misunderstood Marcus.

But it is Smith (and Marcus) who have misunderstood. Kripke was not criticizing Marcus for holding the view that individuals could not have had different names. Rather, Kripke was showing how the doctrine that there is a class of singular terms which are rigid designators collides with Quine's doctrine that even if *de dicto* necessity (in which the necessity operator is prefixed to a closed sentence) is accepted, *de re* necessity (in which we quantify into a modal context formed by prefixing the necessity operator to a formula containing a free variable) is illegitimate. Quine's idea was that even if we could make sense of a statement being necessary, we cannot make sense of an object having a property essentially, or necessarily (which is what we express by quantifying in). According to Quine we cannot make sense of an object necessarily having a certain property independently of how it is designated or described because for any such object *o* and property *P* there will be different (closed, singular) terms *t*₁ and *t*₂ referring to *o* such that the sentences *Necessarily t*₁ is *P* and *Necessarily t*₂ is *P* differ in truth value.

Kripke's response (on behalf of Marcus) can be put in contemporary terms as follows: If names are rigid designators, and *n* is a name of *o*, then the *de re* claim that *o* has the property *P* necessarily – ($\exists x [x = n \ \& \ \Box Px]$) – is equivalent to the *de dicto* claim that the statement *Pn* is necessary – ($\Box Pn$). Since *n* refers to the same thing in all worlds, the *de dicto* claim is true iff *o* has the property *P* in every world – which is just what the *de re* claim says. Thus, if one grants the legitimacy of *de dicto* claims, and also recognizes the rigidity of names, one has to grant the legitimacy of *de re* essentialist claims as well. Alternatively, if one insists (for whatever reason) that *de re* essentialist claims do not make sense, then one must insist that neither names, nor any other terms, can be rigid designators. In the

discussion Kripke did not take a stand on which of these alternatives was correct, but was content to simply frame the issue between Marcus and Quine. (See page 35, *Modalities*.)

⁴⁷ For a discussion of the difference between rigidity and direct reference see David Kaplan, 'Afterthoughts', *Themes From Kaplan*, Almog, Perry, and Wettstein, eds., (New York and Oxford: University Press, Oxford), 1989, 565–614.

⁴⁸ Versions of this paper were read by Paul Benacerraf, Sarah Broadie, Fiona Cowie, Al Akhtar Kazmi, Mark Richard, Nathan Salmon, and Michael Thau. I would like to thank them for their helpful comments. In addition, I would like to thank Saul Kripke for a conversation about the material indicated in footnote 4, and Ruth Marcus for conversations about her views in 'Modalities and Intensional Languages'.

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