

## MORE REVISIONISM ABOUT REFERENCE

At the Eastern Division Meetings of the American Philosophical Association in December of 1994, I replied to Quentin Smith's paper "Marcus, Kripke, and the Origin of the New Theory of Reference". After my comments, Smith was allowed to read a second paper, responding to me, which I had not had the opportunity to see. The three APA papers were later published in *Synthese*, with the result that Smith's comments on my paper continued to stand unchallenged. I take the opportunity to respond to them now. Since it would take volumes to respond to all of Smith's errors and misrepresentations, I will be selective, and concentrate on a few representative examples of his lax standards of scholarship and most blatant historical inaccuracies. I will take up substantive philosophical issues, beyond these discussed in my original reply, only where Smith's discussion might lead others astray, and where correction may produce some general enlightenment. Finally, some important issues, like Smith's treatment of the necessary *a posteriori*, and his interpretation of Marcus' famous "dictionary remark", will be left to the companion paper, "How Not to Write History of Philosophy: A Case Study" by my colleague, John Burgess.<sup>1</sup>

## 1. QUOTATION

I begin with Smith's attempt to deflect criticism of his misleading use of quotation. On page 37\* of his reply to me, he says the following:

"... I should note that Soames does not quote Marcus' original 1961 paper, which is the paper in dispute, but her revision of this paper, published in *Modalities* (1993), which differs at a number of places from the original 1961 article. **I quoted only the 1961 article, but Soames, when he sometimes tries to show that my quotations are misleading or incomplete, does not in fact quote the 1961 article, but Marcus' 1993 revision of this article.** Since this is an historical inquiry into the relation of Marcus' 1961 paper to Kripke's works of 1971 and 1972, it is her 1961 paper that is the proper object of examination." [my emphasis]

I grant Smith the point about the (1961) text being the definitive version.<sup>2</sup> However, I want to draw attention to two issues regarding the use he makes of this point. First, his remark suggests that my criticism of his misleading and

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\*[Editors' note: Pagination references have been changed to refer to the reprinted paper in this volume.]

incomplete quotations from Marcus rest on my use of the (1993) text, and would lose its force if the (1961) text were consulted. This is false. There were four places where I called attention to the ways in which Smith's quotations differ from the corresponding passages in Marcus (1993): one of the Marcus passages is word for word identical in the (1961) and (1993) texts; one passage is identical in the two texts except for an insertion of the word 'that' to introduce a complement clause in the (1993) version; and in the remaining two cases the (1961) and (1993) texts differ only stylistically by a pair of philosophically irrelevant words, e.g., "to *assign* a thing a name" vs. "to *give* a thing a name". (See the appendix to this paper for details.) It is hard to understand how anyone who had actually compared the two versions of these four passages could have failed to recognize that the differences between the two versions are tiny and that nothing in my criticism of Smith's quotations is affected by them. Moreover, it does not seem too much to expect that anyone operating in good faith would have made such a comparison before making an issue of my quoting the reprint rather than the original. One can draw one's own conclusion about where this leaves Smith.

Second, despite his self-righteous insistence on the principle that one should always quote from the original, Smith himself does not always do so. On page 6 of his original paper he gives the following quotation from Marcus.

"Let us now return to (10) and (15). If they express a true identity, then 'Scott' ought to be anywhere intersubstitutable for 'the author of *Waverly*, in **modal contexts**, and similarly for 'the morning star' and 'the evening star'. If they are not so universally intersubstitutable – that is, if our decision is that they are not simply proper names for the same thing; that they express an equivalence which is possibly false, e.g., someone else might have written *Waverly*, the star first seen in the evening might have been different from the star first seen in the morning – then they are not identities. (1961:311)" [my emphasis]

Although Smith cites page 311 of the (1961) text as the source of this passage, the (1961) text does not contain the words "in modal contexts". These words were added by Marcus and appear only in the (1993) text.<sup>3</sup> A further twist is added by the fact that there are a number of other inessential grammatical differences between the (1961) and (1993) versions of the passage. The material in Smith's quotation is an amalgam of the two. It is word for word identical with the (1961) passage, except for the insertion of the words 'in modal contexts', which come from the (1993) version. Put simply, this quote is manufactured.<sup>4</sup>

Nor is this matter insignificant. It is clear from Marcus' paper that she regarded coreferential proper names as logically equivalent, and even synonymous. Hence, she thought they could be substituted for one another without change in truth value in any linguistic construction, including epistemic and propositional attitude constructions, (except for metalinguistic constructions about the names themselves) without change in truth value. But if that was her view, then, as I argued in my response, the grounds for her claims about the behavior of names in modal contexts were much different from, and more

questionable than, those of Kripke. The original passage from Marcus, without the insertion of the phrase “in modal contexts”, supports this interpretation – which is why Smith’s inclusion of those words is so telling.

## 2. SMULLYAN AND FITCH

In my original reply I contested Smith’s claim that Marcus **introduced** the idea that proper names are directly referential, and are not equivalent to descriptions. As Smith notes in his reply, I said:

“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.”

Smith objects to this, claiming that Smullyan held no such view, and maintaining that Fitch got the idea from Marcus.

Before showing that this is false, I want to remind the reader that the ultimate sources of these ideas were, of course, John Stuart Mill and, in our century, Bertrand Russell (in his doctrine of logically proper names). Smullyan, Fitch, and Marcus (as well as Arthur Prior) were all strongly influenced by Russell. They took themselves to be following important doctrines of his involving the distinction between names and descriptions, while dropping his requirement that logically proper names can refer only to objects of immediate, privileged, acquaintance (without responding to the substantive concerns that led Russell to this requirement). In particular, all of them believed that Quine’s argument against the intelligibility of modal logic, based on failure of substitution in modal contexts, could be answered by invoking the Russellian distinction between genuine names, on the one hand, and definite descriptions (which were not regarded as singular terms), on the other. The historical question at issue involves the priority of this response to Quine, and of the conception of names involved in that response.

As I pointed out in my original reply, the brief discussion of names in Marcus (1961) occurs entirely within the context of replying to Quine’s argument. After giving a rough sketch of the argument she begins her reply with an explicit disavowal that she is introducing new material. She says “*The rebuttals are also familiar. Rather than tedious repetition, I will try to restate them more persuasively*”.<sup>5</sup> As it happens, she had dealt with the same question in a closely related paper, ‘Extensionality’ that appeared in *Mind*, in 1960.<sup>6</sup> Her response to Quine’s argument is found in the antepenultimate paragraph of that paper, which begins:

“The problem of the morning star and the evening star is resolved in an analogous way. For ...

(12) The evening star equals the morning star

is not unambiguous. If (12) involves proper names of individuals then ‘the evening star’ may replace

'the morning star' without paradox in:

(13) It is necessary that the evening star is the evening star

...

As I pointed out in my original reply, Marcus attributes the argument in this passage to Fitch. The attribution appears as a footnote, which is attached to the first sentence of the paragraph just quoted. It reads as follows:

"The paragraph which follows restates a point made by F.B. Fitch in [Fitch (1949)]."

This point is indeed made in Fitch (1949). However, in footnote 4 of that paper Fitch notes his agreement with Smullyan, and in the main text of the paper he says:

"Smullyan has pointed out that if the phrases (1) ["The Morning Star"] and (2) ["The Evening Star"] are regarded as proper names of the same individual, then Quine's argument fails because (4) ["It is not necessary that the Evening Star is identical with the Morning Star"] would clearly be false."<sup>7</sup>

The relevant papers by Smullyan are (1947, 1948).<sup>8</sup> Though the latter is better known, the former is more relevant. It is a short review of Quine's original presentation, which follows it in the same year and the same volume of *The Journal of Symbolic Logic*. I don't believe that there is any other published response to Quine's argument for which one could possibly claim priority.

Despite this, in his reply to me Smith denies that in these papers Smullyan held that names are directly referential, and not equivalent to definite descriptions. Smith gives two reasons for this denial. His first reason is that Smullyan's discussion is allegedly too brief to indicate that he is ruling out the possibility that names may be disguised descriptions. This is false. As I pointed out in footnote 10 of my original reply, the basic idea behind Quine's argument (extraneous complications aside) was that (i) existential generalization on a constant is a valid, truth-preserving, rule of inference, but (ii) this conflicts with the fact that advocates of modality must acknowledge that for some coreferential constants  $a$  and  $b$ , both  $a = b \ \& \ \Box a = a$  and  $b = b \ \& \ \sim \Box a = b$  are true. Together (i) and (ii) lead to the impossible conclusion that  $\exists x[x = b \ \& \ \Box a = x]$  and  $\exists x[x = b \ \& \ \sim \Box a = x]$  are jointly true. (Bold face italics are used as corner quotes.) Smullyan's response to this argument was that if "*by 'constant' is meant what is commonly understood by 'proper name'*",<sup>9</sup> then although (i) is true, (ii) is false, since when  $a$  and  $b$  are coreferential proper names,  $\sim \Box a = b$  will be false (and hence  $\Box a = b$  will be true); whereas if definite descriptions are allowed as constants, then (i) will be false, since existential generalization on singular descriptive phrases (out of modal constructions) will fail.<sup>10</sup>

Evidently, there is in this a clear distinction, revealed by their different behavior in modal contexts, between definite descriptions and "what is commonly understood by 'proper name'". The necessity of identity for names, but not descriptions, is implicitly endorsed. In addition, names, unlike descriptions, are implicitly treated by Smullyan as rigid designators, since from

the trivial truth  $\Box a = a$  one can derive  $\exists x[\Box a = x]$  (which on the ordinary understanding can be true only if  $a$  refers to the same thing in every world). When Smullyan adds that “if ‘*Evening Star*’ and ‘*Morning Star*’ proper-name the same individual they are synonymous ...” this strongly suggests, as I noted in my original reply, that genuine names have no meaning apart from their referents. Hence it is reasonable to conclude that Smullyan has the main elements of the view of names advocated in Marcus (1961).<sup>11</sup>

Smith’s second reason for denying credit to Smullyan is that Smullyan says that in Quine’s example “Morning Star” and “Evening Star” are more naturally viewed as abbreviations of descriptive phrases than as proper names. But this is beside the point. Smullyan’s general thesis about the difference between the categories of names and descriptions is independent of his judgment about the naturalness of viewing a particular pair of expressions as used in a particular example as members of one category rather than the other. This is especially so since everyone from Smullyan to Marcus holds the example to be ambiguous. It is precisely because Marcus was not ready to categorically characterize “the morning star” and “the evening star” as names that her restatements of the Smullyan-Fitch response to Quine’s argument are persistently hypothetical (as witnessed by the ‘if’-clause in the passage cited above from “Extensionality”).

All of these points about Smullyan’s response to Quine are obvious, and I am surprised that they should have to be repeated. It is worth noting in this connection that my understanding of Smullyan is absolutely standard, and was shared by participants in the debate, as well as by other leading figures in the development of modal logic. As already indicated, Marcus acknowledged that her reply to Quine restated the position of Fitch (1949), which attributed that very position to Smullyan. Nor was Fitch alone in this. As I noted in my original reply, Church’s 1950 review of Fitch (1949) characterized him as agreeing with Smullyan. Additional confirmation comes from another pioneer in the development and philosophical application of intensional logics. In his (1967) article on modal logic in the *Encyclopedia of Philosophy*, Arthur Prior gives full credit to Marcus’ contribution to quantified modal logic, and notes in particular the quantified version of the necessity of identity.<sup>12</sup> Prior also cites Quine’s objection, and credits Smullyan (not Marcus) with the response to Quine just outlined, including the distinction between definite descriptions, on the one hand, and expressions that “*directly name*” and “*simply tag*” objects, on the other. He also provides needed historical context by indicating the origin of these ideas in Russell’s conception of logically proper names.<sup>13</sup> It is astounding to suggest that all of these contemporaries of one another should be fundamentally wrong in their understanding of Smullyan. Thus it is not surprising that when one carefully reviews Smullyan’s texts, one finds that he did hold the views attributed to him.

We now turn to Smith’s treatment of Fitch, where he takes an entirely different approach. Here, Smith does not deny that Fitch (1949) contains the main points about the differences between names and descriptions, including

their different behavior in modal contexts. Instead, he claims that Fitch learned these points from private communications with Marcus five years earlier, when she was his doctoral student. Smith does not claim that Fitch, too, unconsciously plagiarized Marcus; rather he claims that Fitch explicitly attributes the points to Marcus. On the face of it, this seems unlikely, since we have already seen that Marcus' first treatment of the issue attributes the points to Fitch (1949), which in turn contains a direct attribution of them to Smullyan – an attribution that Smith neglects to quote.

Smith does, of course, quote other things from Fitch in an attempt to show that he really attributed the main points of his reply to Quine – i.e., the main points of Fitch (1949) – to Marcus. Examination of these texts provides another instructive lesson in Smith's technique.

There are two relevant papers here – Fitch (1949), and Fitch (1950). Smith quotes a sentence from footnote 6 of Fitch (1949). In that footnote Fitch first refers back to footnote 3, then lists Marcus' three early technical papers on her formal system of quantified modal logic, and then includes a general, non-specific acknowledgment to Barcan-Marcus for helpful conversations. This sentence, the second to last of the footnote, is quoted by Smith (on page 39).

“The writer wishes to acknowledge his debt to Miss Barcan for some helpful discussions concerning the ideas of this paper.”

Obviously, this is simply a polite thanks that implies nothing specific about anything that should be attributed to Marcus. However, the very next (and last) sentence of the footnote, **which Smith chooses not to quote**, provides further specificity:

“In particular, she pointed out the importance of the equivalence of the two kinds of identity defined in her third paper.”

The issue involving “the equivalence of the two kinds of identity” is a very minor technical one (about which Quine had become confused), concerning the difference between systems of quantified modal logic based on the modal system S2, and those based on S4. Fitch relegates discussion of this issue to footnote 3 (the one to which the footnote presently under discussion begins by referring). Clearly, there is nothing here to support Smith's contention that Fitch acknowledged Marcus as the source of the main point of his paper.

Smith places more weight on a passage from Fitch (1950), “Attribute and Class”.<sup>14</sup>

“The system of modal logic developed by Ruth Barcan suggests that the simplest view is that no identities should be regarded as merely contingent and that identified entities should be everywhere intersubstitutable. (*Indeed, no entity is correctly identifiable with any entity but itself, so permission of substitution of this sort is trivial anyway.*) Furthermore, if entities X and Y have been identified with each other, it seems reasonable to suppose that the **names** of X and Y should also be everywhere intersubstitutable where they are being used as names. According to Church's view on the other hand two names of the same thing might differ in sense and so not be intersubstitutable.” (The italicised material is omitted and marked by an ellipsis in Smith's quote.)

Smith takes this passage to show that “*Fitch explicitly attributes the idea that names and descriptions behave differently in modal and other contexts to his doctoral student Ruth Barcan Marcus (her name was then Ruth Barcan)*”.<sup>15</sup>

The passage shows no such thing. First, it does not say that Marcus personally suggested anything to Fitch. It says that her early formal system suggested something. The exact words used by Fitch need mean no more than that something occurred to him which he judged to be in the general spirit of Marcus’ formal system. Because his words can perfectly well be taken in this way, they would not have constituted an adequate acknowledgment if there had been an actual suggestion from Marcus personally. Second, what is said to have been suggested involves the claim that “*identified entities should be everywhere intersubstitutable*”, which clearly involves a confusion of use and mention, since it is expressions, not the entities denoted by them, that are candidates for substitution. The confusion continues in the parenthetical sentence omitted by Smith, where the confused thing said to be suggested by Marcus’ system is characterized as *trivial*. Third, in the next sentence of the passage Fitch indicates what he seems to take to be a **further idea** – namely that **it is reasonable to suppose** that names of the same entity should be everywhere intersubstitutable. So what we have is Fitch’s claim (i) that Marcus’ formal system suggests something (which he gives a confused account of and apparently regards as trivial), and (ii) that further reflection suggests the reasonable (but apparently non-trivial) claim that coreferential names are everywhere intersubstitutable.

It must be emphasized here that the formal system of Marcus’ early papers has no consequences whatever regarding the properties of names vs. descriptions; so if Fitch thought that it did suggest something about this (as I expect he did), then he was wrong. As I pointed out in my original reply, the language of that system contains no names, no individual constants, no function signs, no descriptive phrases; its only singular terms are individual variables. The system leaves entirely unanswered the question of which, if any, of the different categories of possible singular terms – individual constants, ordinary proper names, singular definite descriptions, functional expressions  $f(c)$ ,  $g(a, b)$ , etc. – should be allowed as instantial terms, to be intersubstituted with variables in rules of inference like existential generalization and universal instantiation, should the language be enriched to allowed such terms.<sup>16</sup>

This is a point I made in my original reply, but which Smith has now muddled further in his second paper. Since there is a significant philosophical lesson here that may be of some general interest, I will return to it briefly below. For now it is enough to note that there is no way that the formal system of Marcus’ early papers could have significant consequences about ordinary names and descriptions in natural language.

The final point to be made about Fitch (1950) is that, as usual, Smith’s quotation from it is misleading and incomplete. In the paragraph **immediately following** the passage cited by Smith, Fitch explicitly attributes the crucial

distinction between names and descriptions, and the use of this distinction in responding to Quine's argument, not to Marcus, but to **Smullyan**. Here is the passage omitted by Smith.

"This discussion of identity is well illustrated by the problem about the Morning Star and the Evening Star. Let us grant that the Morning Star is identical with the Evening Star, so that they have all the same attributes. Since the Morning Star is necessarily identical with the Morning Star, it must be the case that the Evening Star also has the attribute of being necessarily identical with the Morning Star. Hence we cannot assume that they merely **happen** to be identical without concluding that they must necessarily be identical, in the sense that their identity is a truth of logic rather than merely of astronomy. Quine regards this problem as indicating that modal logic must be rejected or at least severely restricted. But A.F. Smullyan has shown that there is no real difficulty if the phrase 'the Morning Star' and 'the Evening Star' are regarded either as proper names or as descriptive phrases in Russell's sense. His argument is essentially the same as that given above in discussing the phrase, 'the author of *Waverly*'.<sup>17</sup>

The argument to which Fitch refers occurs on pp. 551–552, and is simply his restatement of Russell's treatment in "On Denoting"<sup>18</sup> of the example 'Scott is the author of *Waverly*': if both 'Scott' and 'the author of *Waverly*' are regarded as names, then the sentence is held to mean the same as 'Scott is Scott', and is characterized as a "*truth of logic*". On the other hand if 'the author of *Waverly*' is analyzed in accord with Russell's theory of descriptions, then the statement is not a genuine identity statement, "*and so can be true without being true by logical necessity*".

Fitch was right to characterize Smullyan's reply to Quine as essentially an application of familiar Russellian ideas about logically proper names vs. descriptions to a modern logical context. This response to Quine, first given by Smullyan, and later repeated by Fitch, and then Marcus, was a straightforward application of Russell, without consideration of the epistemic considerations that led him to require the referents of logically proper names to be objects of direct acquaintance. As a result, there was very little new ground broken. It is no wonder that Marcus should introduce the crucial discussion in her 1961 paper by referring to familial rebuttals, and their tedious repetition. The rebuttal was, by that time, very familiar – which is not to say that no important purpose was served by the vigorous revival and application of Russell. On the contrary, the points made were well taken, and they had a salutary effect. But priority for this response to Quine, with the accompanying revival of Russell's doctrines about descriptions vs. genuine names, belongs to Smullyan, not Marcus.

Finally, it is important to appreciate that the lasting value of this bundle of doctrines, as applied to modal contexts, depends on the relevant modality being metaphysical necessity, in the sense of Kripke (1972), and not "analyticity", "logical necessity", "logical validity", "tautology" or "logical truth" – as disputants from Quine to Marcus habitually characterized it. Identity sentences involving coreferential names (whether they be ordinary proper names or individual constants in a logical system) are **not** analytic, logically necessary, logically valid, or logically true.<sup>19</sup> In addition, the argument in Kripke (1972)



for why identity sentences involving ordinary proper names are metaphysically necessary, if true, depends on considerations specific to that kind of necessity – considerations which are absent from the relevant texts of Smullyan, Fitch, and Marcus. Certainly, Kripke's argument does not turn on any principle about names being "everywhere intersubstitutable where being used as names", which is something that is implicitly rejected in *Naming and Necessity*.<sup>20</sup> So, by all means, let us recognize the value of the Smullyan response to Quine, and its later repetition by Fitch and Marcus; but let us not confuse it with the seminal advance of Kripke (1972).

### 3. THE NECESSITY OF IDENTITY, NAMES, AND RULES OF INFERENCE FOR THE QUANTIFIERS

In the previous section I repeated the point that, contrary to Smith, the formal system of Marcus (1947),<sup>21</sup> which includes a proof of the necessity of identity

(NI-1)  $(x)(y) (\text{if } x = y, \text{ then } \Box x = y)$ ,

does not provide the basis for any thesis about names, and in particular does not provide the basis for

(NI-2) For all proper names *a* and *b*, if *a* = *b* is true, then  $\Box a = b$  is true.

In his reply to me Smith disputes this, saying that

"... it can be plausibly argued that there is a "direct route" from (NI-1) to (NI-2) in the sense that the true thesis (NI-2) can be logically derived from the true thesis (NI-1) in conjunction with some plausible supplementary premises about proper names and variables (e.g., that proper names are formally equivalent to variables in some contexts) ..." (p. 46)

What Smith has in mind by the supplementary premises involving the "*formal equivalence between variables and proper names*" is indicated in the following remark, in which he quotes from Quine.

"There arguably is a formal equivalence between variables and proper names, an equivalence that has been recognized as early as 1939 with Quine's article, 'Designation and Existence' (*Journal of Philosophy*, 1939), where Quine writes:

"... we might equivalently omit express mention of existential generalization and describe names simply as those constant expressions which replace variables and are replaced by variables according to the usual logical laws of quantification." (p. 45)

I take it that the idea here is this: The existential and universal quantifiers in modal and other logical languages are subject to the logical laws of existential generalization and universal instantiation. Where *t* is a proper instantial term, existential generalization is a universally truth-preserving rule that allows one to derive  $\exists x (...x...)$  from  $(...t...)$  and universal instantiation is a universally truth-preserving rule that allows one to derive  $(...t...)$  from  $(x) (...x...)$ . The claim that proper names are proper instantial terms for existential generalization and universal instantiation is a standard, widely recognized, and

independently plausible assumption. (See, for example, Quine (1939).) When this supplementary assumption is added to (NI-1), the resulting pair entails (NI-2). Since (NI-1) was a theorem of Marcus (1947), and since that theorem together with a widely accepted and independently plausible supplementary premise entails (NI-2), Marcus' formal system did in fact provide the basis for establishing the necessity of identity for proper names.

Although this line of reasoning can be seductive, it is mistaken in subtle ways. Since the errors are important, instructive and I fear, widespread, I will try to correct them.

The first point to remember is that whether the familiar rules for (objectual) quantifiers are truth preserving depends on the resources of the language, and in particular on the semantics of the structures quantified into. In an extensional language, existential generalization and universal instantiation are guaranteed to be truth preserving so long as the instantial terms are required to designate some individual. When one considers different kinds of intensional languages further restrictions on instantial terms are needed, and in some cases the constructions quantified into preclude any class of constant or logically compound singular terms from playing the role of instantial terms. In these languages, existential generalization and universal instantiation involving constant or compound singular terms are simply not valid rules of inference.

A simplified example of this can be constructed if we let  $L$  be a standard first-order language, containing names as constant singular terms, to which the 1-place formula-forming operator ' $\Box$ ' has been added. To keep things simple we allow only formulas in which ' $\Box$ ' is prefixed to formulas that do not already contain it. Thus there are no iterations to worry about, and no occurrence of the operator is ever within the scope of another. Intuitively, ' $\Box$ ' is to be understood as "it is a logical truth that". More precisely, when ' $\Box$ ' is prefixed to a (closed) sentence  $S$  the resulting sentence,  $\Box S$ , is true iff the sentence  $S$  is a logical truth (i.e., is true in all its interpretations); when ' $\Box$ ' is prefixed to an open formula  $F$  in which certain variables occur free, the resulting formula,  $\Box F$ , is true relative to an assignment  $A$  of values to variables iff  $F$  is true relative to  $A$  in all interpretations of  $F$ .

What about cases in which  $A$  assigns a variable free in  $F$  some object that doesn't exist in a particular interpretation  $I$ ? Different decisions are possible here, but for our purposes we may stipulate the following:  $x = y$  is true in  $I$  relative to  $A$  iff the denotation of ' $x$ ' relative to  $A$  (i.e., the value  $A$  assigns to ' $x$ ') is the same as the denotation of ' $y$ ' relative to  $A$  (whether or not the object is a member of the domain of  $I$ ); since the extensions of all other, non-logical, predicates in  $I$  are sets of  $n$ -tuples from the domain of  $I$ , atomic formulas not involving the identity predicate are true in  $I$  relative to  $A$  only if the denotations of all the relevant terms, relative to  $A$ , are members of the domain of  $I$ .<sup>22</sup> In such a language (NI-1) is true, even though for any pair of distinct names  $a$  and  $b$ ,  $\Box a = b$  is false, since there will always be interpretations in which the names are assigned different things. Therefore, (NI-2) is false statement about  $L$ . In

this language existential generalization and universal instantiation involving names are not universally truth preserving, and so do not qualify as rules of inference.<sup>23</sup>

The point illustrated here is that when one is dealing with a new intensional operator that allows quantifying-in, one cannot simply assume without argument that the usual rules of inference governing the quantifiers in familiar extensional systems will continue to apply. Thus, even though names are standardly chosen as instantial terms for these rules in extensional systems, one has no justification for extending this practice to a system containing a new intensional operator until one has explained the meaning of the operator, and shown that, with that meaning, the selection of names to play the role of instantial terms will guarantee that the rules are truth preserving. As we have seen, when ' $\Box$ ' is given an interpretation corresponding to the informal characterizations found in the writings of Fitch, Marcus, and others, neither ordinary proper names, nor the constants in formal logical systems, can play that role.<sup>24</sup>

Suppose, however, that we distinguish logical necessity (in the sense of standard logical truth) from the now familiar notion of metaphysical necessity, and interpret ' $\Box$ ' as standing for the latter. Next we ask a question. What requirement must a class of singular terms satisfy if members of the class are to qualify as instantial terms in universally truth-preserving rules of existential generalization and universal instantiation? It will be sufficient to consider existential generalization (involving the standard objectual quantifier). The basic idea can be expressed as follows: Let  $\Box (...t...)$  be an arbitrary truth. Given the meaning of the modal operator, this will be true iff for every metaphysically possible world  $w$ , the referent of  $t$  in  $w$  satisfies  $(...x...)$  in  $w$ . Now consider the sentence,  $\exists x \Box (...x...)$ , which would be gotten by existential generalization. This sentence will be true iff there is some one object that satisfies  $(...x...)$  in every metaphysically possible world. Looking at these two truth conditions, one can easily see what requirement on  $t$  will guarantee that if the first of the truth conditions is satisfied, then the second must also be satisfied. There must be some one object which is the referent of  $t$  in all worlds – i.e.,  $t$  must be a rigid designator.

In general, when we interpret the modal operator in our language  $L$  as expressing metaphysical necessity, we can be sure that if there is a nonempty class of instantial terms for truth-preserving rules of existential generalization and universal instantiation, its members must be rigid designators. Moreover, because they are rigid, we know that for any two members  $t_1$  and  $t_2$  of that class, if  $t_1 = t_2$  is true, then  $\Box t_1 = t_2$  is true. Notice that what we have here is a generalized version – call it “(NI-2G)” – of (NI-2).

- (NI-2G) For all members  $a$  and  $b$  of the class of proper instantial terms for truth preserving rules of existential generalization and universal instantiation, if  $a = b$  is true, then  $\Box a = b$  is true.

The same point can be established in another way, using one part of the argument of Quine (1947).<sup>25</sup> Let  $I$  be the class of instantial terms for a universally truth-preserving rule of existential generalization, and let  $a$  and  $b$  be any two coreferential members of that class – i.e., any two members such that  $a = b$  is true. It follows from the universally truth-preserving character of existential generalization that substitution of  $a$  for  $b$  in any sentence must preserve truth value. For suppose this were not so – i.e., suppose that some sentence,  $(...a...)$ , were true whereas the corresponding sentence,  $(...b...)$ , was false. In such a situation, both the sentence  $[a = b \ \& \ (...a...)]$  and the sentence  $[(b = b \ \& \ \sim (...b...))]$  would be true. But then if existential generalization is universally truth preserving,  $\exists x (x = b \ \& \ (...x...))$  and  $\exists x (x = b \ \& \ \sim (...x...))$  would both be true, which is impossible. Thus, for any two members  $a$  and  $b$  of  $I$ , if  $a = b$  is true, then  $\Box a = a$  and  $\Box a = b$  cannot differ in truth value. Since we know the former is true, the latter must be as well.

The significance of this for my reply to Smith is obvious. In establishing (NI-2G), what we have shown is that (NI-2) follows from the claim that proper names are the instantial terms for universally truth-preserving rules of existential generalization and universal instantiation in a modal system in which ‘ $\Box$ ’ stands for metaphysical necessity.<sup>26</sup> But this claim is nothing other than the supplementary premise that Smith proposed to add to Marcus’ (NI-1) so as to derive (NI-2). Of course, since (NI-2) follows from the supplementary premise alone, it follows from that premise plus (NI-1). Clearly, however, (NI-1) is irrelevant to this derivation. For this reason, it does not provide any basis for (NI-2). One cannot argue that Marcus’ (1947) quantified version of the necessity of identity provided the basis for the necessity of identity involving proper names by pointing out that the conclusion about names could be drawn if only one adds to the Marcus theorem a supplementary premise which entails the conclusion all by itself. (Ditto for Smith’s claim that the 1947 theorem provided the basis for “the modal argument”).<sup>27</sup>

Nor does it help to claim, as Smith does, that the important point is that “*Marcus herself applied the theorem [(NI-1)] of the necessity of identity to proper names in her 1961 paper. She takes great pains to make this application explicit in propositions (13) through (18) ...*” (p. 226). The important point is that **there is no such thing as applying (NI-1) to proper names**, in the sense of using it as a basis for deriving (NI-2). Any such derivation is bound to be question-begging in the sense of being forced to assume what is supposed to be proved. As I pointed out in my original reply, the way we establish the necessity of identity for proper names is not by deriving it from the quantified version, but rather, as Kripke did, by first establishing directly that proper names are rigid, and then deriving the necessity of identity for coreferential proper names as an immediate consequence.<sup>28</sup>

Of course, this does not mean that Smith is wrong in characterizing Marcus as **thinking** that her theses about names are the direct results of her (1947) theorem. But if she did think this, then she, too, was confused. That she was

confused is indicated by the following passage from Marcus (1961).

“Consider the claim that

(13)  $a$  I  $b$

is a true identity. Now if (13) is such a true identity, then  $a$  and  $b$  are the same thing. It doesn't say that  $a$  and  $b$  are two things which 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)  $a$  I  $a$

But (14) is surely a tautology, and so (13) must surely be a tautology as well. **This is precisely the import of my theorem (8)** [the (1947) quantified version of the necessity of identity]. We would therefore expect, indeed it would be a consequence of the truth of (13), that ' $a$ ' is replaceable by ' $b$ ' in any context except those which are about the names ' $a$ ' and ' $b$ '. (my emphasis, p. 308).

#### 4. WHAT IS “THE” MODAL ARGUMENT?

In his original paper Smith claims that Marcus introduced “*the famous modal argument for the thesis that proper names are directly referential rather than disguised contingent descriptions.*” (p. 6). In reply to Smith I said that “*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”* [scare quotes in the original], *later made famous by Kripke.*” (p. 21). I then went on to point out, both in the main text and in footnotes, differences between Kripke's version of the argument and Marcus' version (which, as I indicated, was present in Smullyan and Fitch). In the reply he read at the APA, Smith begins section 3 by ignoring my qualification that Marcus had given “a version of “the modal argument””, and simply asserts that I agree that “*Kripke's modal argument for direct reference was earlier stated by Marcus ...*” (p. 42). In the material added to that section later, he takes issue with my characterization of the different arguments offered by Marcus and Kripke.

I see now that my formulation of the matter was insufficiently explicit; my time was severely limited, but I should have chosen a terminology that was harder to misunderstand, or misrepresent. Let me try again. I will call any argument that distinguishes the semantic content of names and descriptions on the basis of their behavior in modal constructions, or their use in describing alternative counterfactual situations, a modal argument. Understood in this sense, modal arguments have been offered both by Kripke and by Marcus (following Smullyan and Fitch). However, the modal argument offered by Kripke is different from the modal argument repeated by Marcus.

The structure of Kripke's argument is given in footnote 34 of my original article.

“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.” (p. 33)

Since contingent descriptions don't have these features, it follows that the semantic content of a name is not identical with the semantic content of any such description. In particular, for any name *n* and contingent description *d*, it is not the case that the referent of *n* with respect to an arbitrary world *w* is semantically determined to be whatever satisfies *d* with respect to *w*.

The structure of Marcus' modal argument is more difficult to pin down. The first thing she has to say on the subject in her 1961 article is the passage quoted above at the end of the last section. In that passage she considers two true identity sentences containing arbitrary names – (13) *alb* and (14) *aIa*. Regarding these sentences, she claims (i) that since (13) is true “*it must say the same thing as (14),*” (ii) that since “*(14) is surely a tautology,*” “*(13) must surely be a tautology,*” (iii) that (ii) “*is precisely the import of my theorem*” [the quantified version of the necessity of identity], and (iv) that “*it would be a consequence of the truth of (13) that 'a' is replaceable by 'b' in any context except those which are about the names 'a' and 'b'.*”

It is evident from this passage that one step in her argument distinguishing names from descriptions is that identity statements involving coreferential names are tautologies. Ignoring the issues raised by the identification of necessity with tautology, we may express this by saying that identity statements involving coreferential names are necessary. Where does this claim in the argument come from? In the passage Marcus tells us that it is “*precisely the import*” of her 1947 theorem. Surely what she is saying here is that the claim about names is a consequence either of the theorem itself, or of the theorem together with trivial supplementary assumptions that can be taken for granted without mention. This is just the confusion mentioned above in the previous section. Thus, if this was Marcus' route to the claim in her modal argument about necessary identities involving proper names, then her reasoning was unsound.<sup>29</sup>

There is, however, another possible route to this claim that is suggested by some of her comments. Claims (i) and (iv) above indicate that she held the view that coreferential proper names are intersubstitutable without change in meaning, proposition expressed, or truth value in all contexts, except metalinguistic ones about the names themselves. Call this the universal substitutivity thesis. Given this thesis plus the necessity of (14), one can derive the necessity of (13) without appealing to Marcus' 1947 theorem at all.

What then were her grounds for the universal substitutivity thesis? For this, we turn to the next passage in Marcus (1961). The paragraph immediately following the one we have just been discussing begins as follows:

"Now suppose we come upon a statement like

(15) Scott is the author of *Waverly*

and we have a decision to make. This decision cannot be made in a formal vacuum, but must depend to a considerable extent on some informal considerations as to what it is we are trying to say in (10) [(10) The evening star eq the morning star] and (15). If we decide that 'the evening star' and 'the morning star' are names for the same thing, and that 'Scott' and 'the author of *Waverly*' are names for the same thing, then they must be intersubstitutable in every context." (pp. 308–9)

Clearly, both the example and what is said about it, come directly from Russell.<sup>30</sup> Although no reference is cited, there was surely no intention to deceive, since Marcus could take it for granted that her audience would be well aware of the source of the Russellian doctrines she was repeating. In particular she could assume that they would understand that she was invoking Russell's doctrine that a genuine name has no meaning apart from its referent, that coreferential names are synonymous, and that they are universally intersubstitutable except in metalinguistic contexts.

In the next two paragraphs Marcus explicitly states her view that proper names are simply tags of objects that have no meaning apart from their referents (adding that on occasion descriptive-phrases are used as names in this sense, as is sometimes indicated by the use of upper-case letters.) It is significant that no argument is given for this view. Rather it is simply taken as a premise, from which Marcus concludes, in the very next paragraph, that if S is truly an identity statement – by which she means one in which the terms flanking the identity predicate are used as genuine names – then, if S is true, "*it must be tautologically true or analytically true*". (pp. 310–11).

In light of this, we may reconstruct one of the argumentative routes suggested by Marcus' comments as follows: We begin with the premise that proper names are mere tags, and have no meanings apart from their referents.<sup>31</sup> From this one infers the universal substitutivity thesis (of coreferential names). Given that (14) above is tautologous, analytic and necessary, one concludes that (13) is tautologically, analytically, and hence necessarily, true. In general, identity statements involving coreferential proper names are necessary, if true.

One problem with this argument involves the indiscriminate characterization of the modality involved. Even if it is granted that names have no meaning apart from their referents, it does not follow that identity sentences involving coreferential names are tautologies (or logical truths, in the standard sense); nor does it follow that they are analytic, if that implies that anyone who understands them has information from which it is possible to recognize their truth, solely on the basis of reflection. The conclusion about analyticity would follow if it were understood that names must refer to objects of immediate acquaintance in Russell's sense – objects about which Russell thought one could not be mistaken. But Marcus, of course, does not assume this.

However, even if we put aside the point about the nature of the modality,

there is another difficulty: whether or not the argument to this stage is sound depends on whether or not the initial premise about names being mere tags is true. This question is a difficult and controversial one that is still under active dispute today. But whatever one's judgment about its truth, it clearly is not something that can be accepted without argument. Thus, on this interpretation, Marcus' modal argument rests on an interesting, but unargued and highly controversial premise that goes well beyond anything asserted in Kripke's argument.

Marcus draws her argument to a conclusion in the next paragraph, which Smith takes as indicating that contingent descriptions are not intersubstitutable in modal contexts:

"Let us return now to (10) and (15). If they express a true identity, then 'Scott' ought to be anywhere intersubstitutable for 'the author of *Waverly*' [this is where Smith inserts the words "in modal contexts" from the 1993 text into the 1961 text] and similarly for 'the morning star' and 'the evening star'. If they are not so universally intersubstitutable – that is, if our decision is that they are not simply proper names for the same thing; that they express an equivalence which is possibly false, e.g., someone else might have written *Waverly*, the star first seen in the evening might have been different from the star first seen in the morning – then they are not identities." (p. 311)

Let us grant that here Marcus indicates that substitution of co-denoting descriptions in modal contexts does not always preserve truth.

We can now reconstruct two different versions of her modal argument:

*Version 1:*

- (i) The 1947 theorem, (NI-1), (plus perhaps some trivial extra premise about names)
- (ii) Hence, (NC-2) – the claim that identity sentences involving proper names are necessary if true. Similarly, coreferential proper names are intersubstitutable in modal contexts.
- (iii) Identities involving co-denoting contingent descriptions are not in general guaranteed to be necessary if true, and co-denoting descriptions are not intersubstitutable in modal contexts.
- (iv) So names are not semantically equivalent to contingent descriptions.

*Version 2:*

- (i) Proper names have no meanings apart from their referents; coreferential proper names are synonymous, and universally intersubstitutable, except in metalinguistic contexts.

The rest of the argument is as in version 1.



There are several points to notice about these arguments. First, both are very different from Kripke's modal argument. Thus, although Marcus can be seen as offering a modal argument, she did not give Kripke's modal argument. Second, both versions of Marcus' argument suffer from an indiscriminate characterization of the relevant modality. When the modality is identified with tautology or analyticity, the second step in the argument is false. Third, even if one takes the modality to be metaphysical necessity, step (ii) in the argument is not securely established. On version 1, step (ii) does not follow from step (i) together with any non-question-begging supplementary principles. On version 2, step (ii) does follow from step (i), but step (i) is a highly controversial premise that requires, but is not given, an argument of its own.

Finally, a word should be said about the phrase "directly referential". This terminology is not used either in Marcus (1961) or in Kripke (1972). The phrase does, however, have two related interpretations in the literature today. The weaker interpretation holds that a term is directly referential iff it is **not** the case that there is a descriptive condition *c* associated with it such that for all worlds *w*, the referent, or denotation, of the term is determined, as a matter of semantics, to be whatever satisfies *c* in *w*. Kripke's modal, and other, arguments are designed to show that ordinary proper names are directly referential in this sense. The second, and stronger, contemporary interpretation of the notion of direct reference holds that a term is directly referential if its semantic content – that which it contributes to the proposition expressed by a sentence containing it – is simply its referent. Kripke nowhere argues that names are directly referential in this sense, and his treatment of the proposition that Hesperus is Hesperus as different from the proposition that Hesperus is Phosphorus can be seen as a denial that names are directly referential in this stronger sense. Marcus, by contrast, does hold that names are directly referential in the stronger sense. Since the stronger sense carries the weaker sense as an implicit consequence, Marcus can be seen as maintaining that proper names are directly referential in both senses.

## 5. CONCLUSION

I would like to finish up on the same positive note that I ended my original reply. In both of my responses the need to correct Smith's false and overblown claims have made it necessary to concentrate on the problematic aspects of Marcus' discussion, and to emphasize the large gap between it and Kripke's groundbreaking contribution. In this context there is a danger of losing sight of the positive aspects of the articles of Smullyan, Fitch, and Marcus. For this reason I would like to repeat the remarks I made on page 28 of my first response.

"we can see in the writings of Marcus, Fitch and Smullyan significant anticipations of some of the central theses of contemporary non-Fregean theories of reference. First, Marcus' 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."

The recognition of those positive contributions is fully consistent with the simultaneous acknowledgment of Kripke, and others, as primary founders of contemporary nondescriptivist theories of reference. As I pointed out on page 28 of my original reply, it is clear that Smullyan, Fitch, and Marcus were not attempting anything as systematic or far-reaching as Kripke (1972); thus it is not surprising that in nearly all fundamental respects their positive contributions to nondescriptivist theories of reference fall far short of that of Kripke (1972). Unlike Smith, who feels free to speculate unfavorably about Kripke's conscious and unconscious thought processes, I will not advance a thesis about the mental state that prevents Smith from seeing this.

## APPENDIX

### SMITH'S SPURIOUS DEFENSE OF HIS QUOTATIONS FROM MARCUS

In my original reply to Smith, all my quotations from Marcus were from the reprinted version, Marcus (1993). I did not carefully attend to the mostly insignificant differences in the texts until Smith made a point of the issue in his reply to me. Instead I relied upon Marcus' assurances that the changes involved only "*editorial corrections and nonsubstantive changes*". (1993, page 3). I was further encouraged in this by Smith himself, who, in his original paper, introduces his main thesis as follows:

"The fact of the matter is that the key ideas in the New Theory were developed by Ruth Barcan Marcus, in her writings in 1946–7 (1946: 1947) and especially in her 1961 article on "Modalities and Intensional Languages" (reprinted with small changes in (Marcus 1993))." (pp. 179–80).

Having now compared the differences in the texts, I think that although most of the differences are purely stylistic (as is illustrated below), a few are philosophically significant (as is illustrated above in the text by the passage in which "in modal contexts" is inserted in the 1993 version). Unfortunately for Smith, where there are significant differences, such as that one, the earlier version of the text is further from the now widely accepted Kripkean doctrines than the later version is.

I now turn to Smith's attempt to deflect criticism of his quotations from Marcus by citing my use of her (1993) text. The first discussion of Smith's misleading quotes appears in footnote 28 of my reply. There I cite the following passage from Smith.

"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." (Smith, p. 5).

I then cite the passage from Marcus, without Smith's first ellipsis. There is only one philosophically irrelevant, stylistic difference between the (1961) text and the (1993) text. To obtain the (1961) text from the (1993) text, substitute the bracketed word for the italicised word immediately preceding it.

"But to *assign* [give] a thing a proper name is different from giving 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*, pp. 309–310 of Marcus 1961.)

The second criticism of Smith's handling of quotations, which is simply an extension of the first, also occurs in footnote 28. There I noted that the passage from Marcus just cited continues through Smith's second ellipsis as follows: [The passages are word for word identical in the (1961) and (1993) texts.]

"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*, Marcus (1961), p. 310)

The third place where I draw attention to the difference between Smith's quotations and the passages from Marcus occurs on pages 20–21. On page 20, I repeat Smith's citation:

"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]

On page 21, I give the full Marcus text from the beginning of the relevant paragraph, without ellipsis, or insertion of Smith's own words. To obtain the (1961) text from the (1993) text I used in my reply, add the first bracketed expression to the text, and substitute the second bracketed expression for the underlined word immediately preceding it.

"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 [or infinite] number – of unique descriptions, for otherwise how would it be singled out? But to *assign* [give] a thing a proper name is different from giving a unique description." [*Modalities*, p. 11, Marcus 1961, p. 309]

Clearly, the tiny differences between the two versions of the Marcus text are irrelevant both to the philosophical issues at hand, and to the question of the fairness of Smith's citation of the passages.

In this connection, it is worth noting that Smith himself seems to have had

trouble living up to his professional strictures (in addition to the manufactured quote that is noted above in the text of this article). The scrupulous reader may notice that the final sentence of my repetition, on page 20, of Smith's citation of Marcus – "But to *assign* a proper name is different from giving a unique description" – is not identical with the final sentence of Smith's own citation, on page 5 of the published paper – "But to give a thing a proper name is different from giving a unique description". Did I misquote Smith's quotation of Marcus? No, my citation of Smith on page 20 is word for word identical with the citation given by Smith on page 6 of the typescript he submitted to the APA, and gave to me for the purpose of preparing my comments. However, in the published version of his paper he changed the last sentence of the quote to conform to the original (1961) text, without indicating that he had made any changes from his typescript. In the preface to the issue of *Synthese* in which the published debate appears, the editors claim that the published version of his original paper "is verbatim as delivered". I don't know whether or not that is so, but whether or not it is, the unacknowledged discrepancy provides further evidence (i) that in the production of his paper Smith was himself relying, at least at some points, on the (1993) text, and (ii) that at the time he wrongly suggested that differences between the two texts would dispel my criticism of his misleading and incomplete quotations he was familiar with the two versions of the relevant passages from Marcus and should have been aware that the differences between them were tiny and insignificant.

The final, and most important, place where I unfavorably contrast Smith's quotation of Marcus with the actual passage from Marcus is on page 24. I first reproduce Smith's quotation.

"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."

In criticizing this quotation, I say "In presenting the passage, Smith breaks Marcus' 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". (p. 24). I then reproduce the passage as it appears in Marcus (1993), which is identical word for word with the (1961) text, except for the addition of the complementizer "that", indicated in brackets in the following:

"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" [My emphasis: *Modalities*, p. 12, Marcus (1961), p. 310]

Clearly, in the face of my criticism of his handling of this quotation, Smith's appeal to differences between the two versions of the text is nothing more than obfuscation.

These are all the places in my article where I unfavorably compared Smith's quotes from Marcus with the actual text. There are other places in my article where I quoted passages from the (1993) reprinting of Marcus' paper to support my criticisms of Smith; in none of these cases is there any difference of philosophical import between the (1961) and the (1993) versions of the text.

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#### NOTES

<sup>1</sup> I would like to acknowledge the invaluable assistance of John Burgess in helping me prepare this response. Since the time that he got drawn into this unpleasant controversy, we have had many opportunities to confer, share ideas, and encourage one another in the seemingly thankless task of setting the record straight. Were it not for his efforts, I am not sure that I would have had the stomach to go another round in this dreary affair. The present paper owes a great deal to him. Nevertheless, I alone am responsible for any mistakes.

<sup>2</sup> As pointed out in Burgess, "Marcus, Kripke, and Names", *Philosophical Studies*, **84**, 1996, 1–47, the Marcus text actually appeared in 1962, though it was dated 1961. (I will continue to use the 1961 date.) Marcus' text was also reprinted in *Proceedings of the Boston Colloquium for the Philosophy of Science 1961/1962*, M.W. Wartofsky (ed.), (Reidel, Dordrecht), 1963, 77–96. The text and page breaks in the 1963 reprinting are identical to those in the 1961 original, so that a passage occurring on page n of the 1961 version appears on page n - 226 of the 1963 reprinting. On at least one occasion (p. 8 of his original article), Smith gives without labeling it as such the (1963) page number (which is actually off by 1: the passage occurs on page 84, not page 85) of a passage he quotes from Marcus (1961).

<sup>3</sup> Thanks to A. Zabłudowski for pointing this out to me.

<sup>4</sup> The same quote occurs again on page 48 of Smith's reply to me.

<sup>5</sup> Marcus 1961, p. 308.

<sup>6</sup> Vol. 69, pp. 55–62; at page 61.

<sup>7</sup> Frederic B. Fitch, "The Problem of the Morning Star and the Evening Star", *Philosophy of Science*, Vol. 16, no. 2, 1949, 137–41; at page 138.

<sup>8</sup> Arthur Smullyan, Review of W.V. Quine "The Problem of Interpreting Modal Logic", *Journal of Symbolic Logic*, **12**, (1947), 139–141, and 'Modality and Description', *Journal of Symbolic Logic*, **13**, (1948), 31–37.

<sup>9</sup> Smullyan (1947), p. 140.

<sup>10</sup> Smith's discussion of the brevity of Smullyan's remarks on proper names is hopeless. On page 39 he says:

"Smullyan's 1947 review of Quine's paper, is, however, relevant, but even in this paper there is only one sentence about names – and even this one sentence Smullyan rejects as false. Furthermore, this sentence (even apart from the fact that Smullyan rejected it as false) does not even imply that names are directly referential and are not disguised descriptions. The sentence in question is on page 140. Smullyan writes: "If 'Evening Star' and 'Morning Star' proper-name the same individual they are synonymous and B is false," where B is the statement: "Evening Star is congruent with Evening Star and it is not necessary that Evening Star is congruent with Morning Star."

Part of the muddle here is that, contrary to Smith, the sentence quoted from Smullyan that is **about** proper names is not the sentence that Smullyan rejects as false. The rejected sentence, when

understood as containing proper names, is (B). The sentence **about** proper names is the one that says that (B), when understood this way, is false. Smullyan **accepts** this sentence. As it happens, this example is overly complicated because of extraneous factors introduced by the word “congruent”. For our purposes that word can simply be read as “identical”. The rejection of (B) then amounts to the rejection of its second conjunct, and hence to the assertion of the necessity of the identity statement *Evening Star* = *Morning Star*. Since the case is clearly intended to be general, what we have here is an implicit endorsement of the necessity of identity for proper names.

In addition, Smullyan has more to say about names than this. As I note in the text, the assumptions of Quine’s argument make crucial use of the notion of an expression being “a constant”. Smullyan presents this formulation of Quine’s assumptions, and then asks whether by “constant” Quine means “proper name” or whether he also includes “singular descriptive phrases”. Smullyan goes on to argue that on either construal the argument fails. (Thus all the remarks about constants receive an interpretation in which they are about names.) In particular, immediately after asking how ‘constant’ is to be interpreted Smullyan says:

*“It is possible that by ‘constant’ is meant what is commonly understood by ‘proper name’. Under this interpretation it appears evident to this reviewer that the principle of existential generalization is true. However, we observe that if ‘Evening Star’ and ‘Morning Star’ proper-name the same individual they are synonymous and therefore B is false.” (bold italic is my emphasis, p. 140).*

<sup>11</sup> One of the bizarre features of Smith’s discussion of Smullyan is his claim that even if “coreferential names are synonymous in modal contexts” (p. 40), this is consistent with their being abbreviations of rigidified descriptions using the actuality operator, which is advocated much later in, for example, Leonard Linsky, *Names and Descriptions*, (Chicago and London: The University of Chicago Press), 1977. But Smullyan doesn’t say that coreferential names are synonymous **in modal contexts**; he says they are synonymous – i.e., they have the same meaning. By phrasing it as he does, Smith invites the thought that Smullyan’s view was simply that coreferential names are inter-substitutable in modal contexts (as are coreferential, rigidified descriptions). However, that was not the whole of Smullyan’s view. Like the later Marcus, Smullyan thought that it is **because** coreferential names have the same meaning that they must be substitutable in modal contexts. This view is not consistent with a Linsky-like analysis of names as rigidified descriptions – since it is a crucial feature of that analysis that the descriptions corresponding to a pair of coreferential names may have different meanings.

<sup>12</sup> He fails, however, to draw attention to the fact that this theorem in Marcus was proven in a quite unorthodox way, and depended on unnecessarily controversial assumptions. See footnote 4 of my original reply to Smith for details.

<sup>13</sup> See pages 10 and 11, volume 5, *The Encyclopedia of Philosophy*, Paul Edwards (editor in chief), (New York, Macmillan and The Free Press – London, Collier Macmillan), 1967.

<sup>14</sup> *Philosophic Thought in France and the United States*, Marvin Farber (ed.), Buffalo, New York, University of Buffalo Publications in Philosophy), 1950, 545–563. The following passage occurs on page 552 (erroneously cited by Smith as occurring on page 252.)

<sup>15</sup> Smith page 38.

<sup>16</sup> For a discussion of the variety of options for handling constants and other terms in systems of quantified modal logic see James W. Garson, “Quantification in Modal Logic”, in D. Gabbay and F. Guenther (eds), *Handbook of Philosophical Logic*, vol. 2 (1984), 294–308.

<sup>17</sup> page 553.

<sup>18</sup> B. Russell, “On Denoting”. *Mind*, vol. 14, 1905, 479–493.

<sup>19</sup> This point is emphasized in section 5 of Burgess, “Marcus, Kripke, and Names”, *Philosophical Studies*, 84, 1996, 1–47. I should add that the matter is complicated when the notion of analyticity is involved. If it is required in order for a sentence to be analytic that anyone who fully understands it should have a basis for coming to recognize it as true, solely on the basis of reflection, then identity sentences involving ordinary coreferential proper names are typically not analytic. On the other hand, if in order for a sentence to be analytic it is sufficient that it be transformable into a logical truth by substitution of expressions with the same meaning, then the view that identity sentences involving coreferential names are analytic is defensible, provided that it can be shown that the meaning of a name is referent. Since the question of how precisely to characterize the notion of analyticity is not here at issue, I will not explore the matter further. For purposes of this paper, I will simply stipulate that a sentence will here be considered analytic only if understanding it provides

one with a basis for coming to know that it is true, by means of reflection alone. In this sense true identity sentences involving ordinary proper names typically are not analytic.

<sup>20</sup> And explicitly rejected in the last paragraph of the preface added in 1980.

<sup>21</sup> R.C. Barcan (Marcus), "The Identity of Individuals in a Strict Functional Calculus of Second Order", *Journal of Symbolic Logic*, 12, 1947, 12–15.

<sup>22</sup> For details of this system, see section XIV, of David Kaplan, "Opacity", in *The Philosophy of W.V. Quine*, Lewis Edwin Hahn and Paul Arthur Schilpp (eds), (La Salle, Illinois, Open Court), 1986.

<sup>23</sup> To see why existential generalization fails, note that  $\Box a = a$  is true, but  $\exists x \Box x = a$  is false.

<sup>24</sup> One of the fascinating themes developed by John Burgess involves the mismatch between the historical development of the technical apparatus of modal logic and the informal interpretations of the modal operators offered by some of those responsible for those developments. See "Which modal logic is the right one?," *Proceedings of the George Boolos Memorial Conference*, in M. Detlefsen (ed.), forthcoming, and "Quinus ab Omni Nævo Vindicatus," in *Meaning, Reference and Truth*, The Canadian Journal of Philosophy Supplementary Volume, 1997, A. Kazmi (ed.), forthcoming.

<sup>25</sup> Quine, "The problem of interpreting modal logic", *The Journal of Symbolic Logic*, 12, 1947, 43–8.

<sup>26</sup> Actually, it follows from this together with the observation that  $\Box a = a$  is true. Since everyone grants this truth, I will suppress further reference to it.

<sup>27</sup> See pp. 6–7.

<sup>28</sup> See note 34 of my original reply.

<sup>29</sup> A further difficulty with this line of reasoning, in addition to those pointed out above, is that if Marcus' theses about names were derived from her (1947) theorem of the necessity of identity (perhaps with the help of supplementary premises), then her theses about names would rest on the assumptions she used in proving that theorem. But, as I pointed out in footnote 4 of my original reply, these assumptions included controversial principles – the  $S_4$  iterability of modal operators plus the second order Barcan and converse Barcan formulas – that neither the necessity of identity (quantified version) nor the relevant theses about names are standardly thought to rely on.

<sup>30</sup> See, "On Denoting", op. cit., chapter 16 of *Introduction to Mathematical Philosophy*, and *The Philosophy of Logical Atomism*, D. Pears (ed.), (La Salle Illinois: Open Court), 1985, at pp. 113–4.

<sup>31</sup> This premise alone, together with the obvious thesis that definite descriptions are not mere tags, and do have meaning apart from their referents, would be enough to distinguish names from descriptions without appealing to modal notions at all. Indeed Marcus herself draws the conclusion that names and descriptions are not equivalent on pages 309 and 310, two paragraphs before the one cited by Smith and taken to indicate that descriptions do not share the behavior of names in modal contexts. Thus, though Marcus does give a modal argument in which the different behavior of names and descriptions in modal contexts shows the need to distinguish them, a crucial early premise of that argument provides a basis for distinguishing them even apart from modal considerations.