Among recent contributions to the problem of interpreting modality is *The Nature of Necessity*, which presents Alvin Plantinga's most comprehensive attempt to develop a unified treatment of necessity. The work is organized around the problem of providing an interpretation of *de re* necessity, the sort of modality involved in

Aristotle is essentially rational,

in terms of *de dicto* necessity, necessity conceived as a property of propositions or sentences. The heart of Plantinga's theory is his scheme for the reduction of *de re* modal sentences to equivalent *de dicto* ones. The idea is to provide an equivalent sentence containing no modal operators within the scope of a quantifier for every sentence asserting that some thing is necessarily or essentially thus and so. Central to the scheme are what Plantinga calls *kernel propositions*, defined by

D1) Where *x* is an object and *P* a property, the kernel proposition with respect to *x* and *P*, symbolized by 'K(x,P)', is the proposition expressed by the result of replacing 'x' and 'P' in 'x has the complement of P' by proper names of *x* and *P*.

The kernel proposition with respect to an object properly named by "Bill," for instance, and the property baptized with "humanity" is the proposition expressed by "Bill has the complement of humanity."

The function of kernel propositions in Plantinga's theory is given by the definition
D2) x has P essentially if and only if x has P and K(x,P) is necessarily false (p. 30).

D1 and D2 constitute the core of Plantinga's theory; together they provide a reduction of de re modal claims, such as

1) Socrates is essentially web-footed,

to de dicto propositions. For example, according to D2, (1) is true just in case Socrates is web-footed and K(Socrates, web-footedness) is necessarily false. Now K(Socrates, web-footedness) is, by D1, the proposition expressed by the result of replacing "x" by a proper name of Socrates and "P" by a proper name of the property of having feet like a frog's, in the sentence "x has the complement of P." On the not unlikely assumption that "Socrates" is, indeed, a proper name of Socrates, and similarly for "web-footedness" and the property of having webbed feet, K(Socrates, web-footedness) would be expressed by

2) Socrates has the complement of web-footedness.

So (1) is true just in case Socrates has webbed feet and (2) is necessarily false.

The necessary falsity of (2) is to be understood, as remarked earlier, as a typical de dicto assertion. In keeping with current fashion, the de dicto modalities are understood here in terms of Kripke's metaphorically useful modal figures, preserving the thrust but easing the rigor of possible-world semantics for modal logic. On this account, the necessary falsity of (2) is equivalent to the falsity of

3) Socrates has the complement of web-footedness

in every possible world. So an essentialist assertion to the effect that some object x has a property P essentially is true just in case x has P and the proposition attributing the complement of P to x is false in every possible world.

Since on most accounts of quantified modal logic an object lacks the complement of a property in every possible world if and only if it has that property in every possible world, Plantinga's formulation of D2 in terms of the necessary falsity of the proposition that x has the complement of P seems an unnecessary
impediment to easy assimilation of his basic idea. But a simpler formulation of D2 along these lines would not do: Plantinga considers logical modifications of properties—complements of properties, disjunctions of properties, etc.—as properties in their own right, and he further requires that the extension of a property at a world "w" must be a subset of the set of things existing at w (here denoted by "D_w"). So if x is not in D_w, both "x has P" and "x has the complement of P" are false in w, for the w-extension of the complement of P, as well as that of P itself, is a subset of D_w to which x does not belong.

Do Plantinga's D1 and D2 accomplish their purpose? If the intent is merely to explain essentialism to those who claim to comprehend the de dicto but confess to confusion when confronted with the de re, then only a poll can answer this question. If, however, the merits of D1 and D2 are to be assessed relative to the espoused aim of providing a reduction of the de re to the de dicto, then according to Plantinga himself, the achievement falls somewhat short of its goal. Crucially involved in the reduction of essentialist assertions is the use of proper names and, according to the major thesis of Plantinga's doctrine of essences, proper names express essences. Since the notion of essence is "essentialist in excelsis, " the transmogrification of linguistic entities achieved by D1 and D2 is no reduction of the de re to the de dicto; it succeeds only insofar as it tacitly involves recourse to proper names conceived of in characteristically essentialist terms.

It strikes one as rather odd that Plantinga should hail his cleverly contrived scheme as constitutive of a reduction of the de re to the de dicto and then turn around and repudiate it for its circularity. But perhaps his contentions may be understood in the following way. D1 and D2 suffice to reduce the de re to the de dicto in the sense that any sentence containing a modal operator in the scope of a quantifier may be eliminated in favor of one that does not. So the reduction concerns the elimination of claims expressed in a quantified modal language in favor of sentences belonging to a restricted sub-language. The reduction succeeds provided that the sub-language in question includes proper names. If, however, the thesis of Chapter V of The Nature of Necessity is correct, then adequate explication of proper names is possible only by means of essences, and the reduction holds only for sub-languages whose semantics involve essences. Since inclusion of
essences among the entities employed in the semantical interpretation of a language is sufficient to show the language is essentialist, it follows that the reduction is circular.

If this construal of Plantinga's argument is accurate, then his contentions involve three claims:

I) If the de re sentences of a language \(L\) are eliminable, the vocabulary of \(L\) includes proper names.

II) Essences are required for the semantical explication of proper names.

III) If a language is semantically explicable only by means of essences, it is essentialist.

Although (I) seems innocuous and Plantinga apparently thinks it is substantiated by the important role played by proper names in D1, it is not true in general. Indeed, I will argue that a simple reformulation of D1, which omits any reference to proper names, serves all the purposes D1 is designed to fulfill. In support of (II) Plantinga advances arguments which support the thesis that proper names express essences. After arguing that Plantinga's arguments fail to support (II), I will try to show that, as far as the purposes of D1 are concerned, proper names need not be thought to express essences at all. These considerations support the rejection of Plantinga's arguments for the claim that the reduction provided by D1 and D2 is ultimately circular. But first it is important to consider Plantinga's characterization of essences and his arguments for (II).

2. According to Plantinga,

\[D3\) E is an essence if and only if there is a world \(w\) in which there exists an object \(x\) that (a) has \(E\) essentially, and (b) is such that there is no world \(w'\) in which there exists an object distinct from \(x\) that has \(E\). (p. 72)\]

So an essence is an essential property that is uniquely possessed by the individual that has it. If Socrateity is an essence possessed by Socrates, then in every possible world in which it is instantiated, it is
instantiated by the individual Socrates and no other. Moreover, since *Socrateity* is an essence of Socrates, it entails each of Socrates' essential properties; that is, for any property $P$ essential to Socrates, Socrateity entails $P$ in the sense that no individual instantiating *Socrateity* lacks $P$. Thus an essence $E$ is an essential propery, unique to the individual instantiating it, which entails all the essential properties of that individual.

Here properties are to be understood as semantical entities, the sorts of things expressed by predicates. For the purposes of this discussion, properties may be identified with functions from possible worlds to sets of individual objects. The property expressed by "is red," for example, is that function the value of which at a given world $w$ is the set of red things in $w$. Essences are a species of property and may be conceived along the same general lines. Explicitly, essences are a certain subset of the functions identified with properties. And like properties generally, essences may be expressed by proper names as well as predicates; in particular, an essence is expressed by a proper name just in case the individual thus named instantiates the expressed essence. Essences, then, are uniquely instantiated essential properties. Just as properties may be expressed by different predicates in different worlds, so the same essence may be associated with distinct proper names at varying reference points. If Socrates is called "Xenophon" in $w$, he there instantiates Xenophoneity, the very same essence expressed by Socrates" in @, the actual world. The essence expressed by "Socrates" in @ is expressed by "Xenophon" in $w$; both are instantiated by the individual named "Socrates" here and "Xenophon" there.

Plantinga's argument for the claim (II), that proper names express essences, has a very simple structure. Basically, it involves the establishment of two theses:

A) Proper names express properties.

B) Some of the properties expressed by proper names are uniquely instantiated essential properties, e.g., essences.

Obviously, it is just a hop, skip, and a jump from A to B. Accordingly, most of our attention will be directed towards arguments for the first claim, A. Here I will
try to show, first of all, that Plantinga's arguments for A are fallacious.

Plantinga's first step in his argument for A is to spell out what it means for a property to be expressed by a singular term.

D) A singular term t expresses a property P if and only if any result of replacing 'x' and 'P' in 'x has the complement of P' by t and a proper name of P expresses a necessarily false proposition. (p. 78)

It is worth noting how well D captures our intuitions when the singular term in question is a descriptive phrase. For instance, "The first American to climb Mt. Everest" expresses the properties of being an American, having climbed Mt. Everest, having climbed a mountain, and many others. But this is no doubt due to the fact that descriptive phrases are, in a straightforward sense, just logical complexes of predicates and express logical complexes of the properties represented by their constituent predicates. Since intuitions seem to vary about whether proper names also express properties, it is somewhat less than clear whether the intuitive appeal associated with D's treatment of descriptions is carried over to its handling of proper names. In fact, one view that Plantinga is particularly concerned to dispute is the idea, outlined by Mill and defended more recently by Kripke, Donnellan, and others, that proper names have no meaning besides their referents and thus do not express anything at all. According to this view, proper names denote but do not have any "descriptive content" or connotation, and certainly do not express properties. Clearly this conception directly conflicts with Plantinga's, and he attempts to refute it by showing that proper names do indeed express properties—in other words, by establishing thesis A.

Given his definition D, Plantinga considers a simple case: does "Socrates" express any properties? According to D it certainly expresses trivial truistic properties, like being human or not human and being something or other, though for that matter, all names of existents do. Moreover, "Socrates" expresses at least one very special property: being identical with Socrates, i.e., the essence Socrateity. Consider
4) Socrates has the complement of being identical with Socrates.

(4) expresses a necessarily false proposition if any sentence does. "So 'Socrates' exactly expresses the property of being identical with Socrates. But of course this property is an essence of Socrates. "Socrates" expresses the essence of Socrates . . ." (p. 80). Plantinga's conclusion is that proper names express essences as well as properties, that Mill's view is false, and that thesis A has been established.

3. Plantinga's argument for A relies only on his definition D which, as noted above, accords well with our intuitions about the expression of properties by definite descriptions. But there is less than universal agreement concerning the adequacy of D's treatment of proper names, and the question arises whether D treats singular terms adequately in general. This question takes on added importance when it is pointed out that D implies A. But then Plantinga's argument for A, which explicitly relies on D, is no argument at all. To put it less charitably, Plantinga's argument begs the question because A depends on D.

It is really rather obvious that D implies A, since D connects proper names and the properties expressed by predicates occurring in necessarily false sentences. According to D, every singular term occurring in a sentence that expresses a necessarily false proposition expresses the complement of the property expressed by the predicate of that sentence. On the basis of the necessary falsity of a given proposition, D establishes a semantic connection between the singular term of that sentence and the complement of the property expressed by its predicate. When the singular term in question is a descriptive phrase, such a connection between it and the properties it expresses is perfectly plausible since descriptive phrases are, in a sense, nothing but logical complexes of predicates. However, as far as proper names are concerned, there seems little reason to conclude, from their occurrence in necessarily false propositions, that they are semantically linked to the complements of the properties expressed by the predicates of those sentences. But by connecting proper names and properties, D creates, ex nihilo, the very link in question. Thus it follows from D that if any sentence containing a singular term is necessarily false, the singular term occurring in it expresses the complement of the property expressed by its predicate term. And since it is assumed that certain sentences
containing proper names express necessarily false propositions, it follows that proper names express properties.

To show that D implies A, we need only assume D, deny A and derive a contradiction. To deny A we need to introduce a species of singular terms—call them "markers"—which have the usual properties of proper names but do not express properties or essences. One characteristic which Plantinga and others attribute to proper names is that they rigidly designate their referents. A singular term t is a rigid designator just in case for every two worlds w and w' at which t designates at all, its referent in w is identical to its referent in w'. Even though the Socrates of @ is named "Xenophon" in w and "Louisa May Alcott" in w', from our preferred vantage point at @ we can quite well discourse about and refer to this fellow in all these worlds by using the name he has in this one. So, "Possibly, Socrates is a turnip," does not mean that there is some turnip located in modal space which is, at that reference point, named "Socrates" but, rather, that our very own Socrates is a turnip in some other possible world—which is ostensibly false. We would do well, then, to suppose that markers are rigid designators as well as that they do not express properties.

This situation can be envisaged more vividly, and its internal consistency more plausibly motivated, if we exploit a common fear of the computer age and construct an imaginary situation in which markers constructed from numerals play the role of proper names. Letting underlined numerals be our markers, we may suppose that we assign to a randomly selected individual that marker which is constructed from the numeral denoting the number of the individual's place in the sequence of selections. So if Socrates turns up as the 287th person in the selection sequence, "287" will henceforth be used in place of "Socrates." Thus we might even proscribe the use of proper names altogether, perversely imposing on any person caught using one the sanction of isolation in a possible world whose domain is their own singleton set! Suppose our familiar Socrates turns up as the 287th person in the random selection process and is accordingly assigned the marker "287," would it then be necessarily false that

5) 287 has the complement of humanity?
If so, it follows in virtue of D that "287" expresses
the property of being human in direct conflict with our
contrary supposition that markers express no properties
at all. Hence, D implies A if (5) is necessarily
false.

And (5) is necessarily false, if D1 and D2 are
correct in their original form. Since we would
certainly want to affirm the truth of

6) The teacher of Plato is essentially
human, D1 and D2 commit us to the
truth of

7) The teacher of Plato is human and
the necessary falsity of

8) Socrates has the complement of
humanity.

This last sentence is necessarily false if and only if,
for every world w, the w-extension of "Socrates" does
not belong to the w-extension of "the complement of
humanity." Both "Socrates" and "287" are, however,
rigid designators which coincide in at least one world
(for instance, @). Therefore, for every world w, the
w-extension of "Socrates" is in the w-extension of "the
complement of humanity" just in case the w-extension of
"287" is. Thus, the necessary falsity of (5) follows
from that of (6).

The obvious conclusion is that D implies A and
Plantinga's argument for A begs the question. However,
a more important conclusion may also be drawn from the
example of markers. The idea of non-expressive
singular terms seems to be coherent--certainly the
notion of a marker is consistent--yet D rules out the
possibility of such singular terms in general. For D
implies that every singular term occurring in a
sentence that expresses a necessarily false
proposition, expresses the complement of the property
expressed by the predicate term of that sentence. It
follows from D that if "x has P" is necessarily false,
"x" expresses the complement of the property expressed
by "P." To the extent that the idea of non-expressive
singular terms is coherent--and there is no apparent
reason why this is not the case--markers provide a
counterexample to D. Thus since "287," by definition,
expresses no properties, D implies that

5) 287 has the complement of humanity
could not be necessarily false, though it clearly is. So markers constitute a counterexample to D.

4. Accordingly, D is false and the question of the expression of properties by proper names remains open. This question is currently much discussed, and quite good general considerations have been offered for the non-expressive character of proper names. But we need not consider these arguments here: for one thing, they are simply beyond the scope of our discussion and, for another, we can draw some important conclusions concerning our present problems independently of a solution to this more general difficulty.

From the foregoing considerations we can conclude that the general argument for the circularity of the reduction of de re modal sentences to de dicto ones does not succeed. The first premise of the argument, I, that proper names are indispensable for reducing the de re to the de dicto, is false because D1 can be amended to eliminate all reference to proper names, without impairing the success of the reduction. The coincidence of (5) and (8) at every possible world suggests the general equivalence of any sentence S with the sentence S' constructed from S by the uniform replacement of every proper name occurring in S with a co-designative marker. That is, if "x" is a proper name occurring in the sentence

\[
S) \ x \text{ has } P
\]

and "a" is a marker such that "x = a" is true in some possible world, then

\[
S') \ a \text{ has } P
\]

is equivalent to S in every possible world. This equivalence may be exploited by replacing every occurrence of "proper name" in D1 with an occurrence of "marker." The result of this replacement will define, for every object x and property P, a proposition equivalent to the kernel proposition with respect to x and P. By using this amended formulation of D1 instead of the original, all reference to proper names would thereby be eliminated from the reduction scheme. Consequently, the question of whether or not proper names express essences becomes irrelevant; the reduction of the de re to the de dicto is accomplished without proper names—contrary to I—and Plantinga's argument for the circularity of the reduction is short-circuited.
But if such a change of formulation does not affect the success of the reduction scheme, the claim II, that proper names express essences, would seem to be superfluous for Plantinga's purposes. Substituting "marker" for "proper name" in D1 achieves the same effect as leaving D1 intact and denying that proper names expresses essences, at least as far as the question of the success of the reduction of the de re to the de dicto is concerned. Since markers are just Plantinga's proper names without the "expressive" features, if the reduction succeeds when D1 is altered, the original D1 would suffice even if proper names didn't express essences. Apparently, the question of the expression of properties and essences by proper names is a pseudo-issue, as far as the success of the reduction is concerned.

Actually, Plantinga connects proper names and essences for a quite specific reason; he seems to think, contrary to what has been shown above, that the expression of essences by proper names is somehow necessary for the success of D1 and D2. Quite simply, once proper names are related to essences the latter may serve to insure the truth of certain sentences containing proper names within the scope of a modal operator. In particular, Plantinga relates proper names and essences to guarantee the necessary falsity of kernel propositions to which true de re claims are reduced. Thus since

9) The Greatest Assyrian heavyweight is essentially human

is true, so must

10) Necessarily, it is not the case that Bubalaba Myshigasha has the complement of humanity

be true, because D1 and D2 would fail if (9) were not equivalent to (10), conjoined with

11) The greatest Assyrian heavyweight is human.

And (10) is true because the denial of a contradiction is necessary. Hence,

12) Bubalaba Myshigasha has the complement of humanity
must be a contradiction. Now (12) is considered internally inconsistent because "Bubalaba Myshigasha" expresses an essence--Bubalaba Myshigashaeity?--which entails humanity and therefore excludes the complement of humanity. Plantinga introduces the link between proper names and essences to perform just this trick--i.e., insuring that the appropriate kernel propositions are contradictory and thus necessarily false. No doubt he thinks that only contradictions are necessarily false and thus he feels compelled to introduce essences as meanings, to insure that the appropriate kernel propositions turn out necessarily false.

5. But such a ploy runs against the grain of the essentialist's insight. The root intuition from which the essentialist doctrine springs is the idea that modal or essential properties are possessed by concrete individuals. Central to this position is the thesis that particular individuals possess properties in such a way that had the individual in question lacked them, that individual could not have existed. Indeed, according to Plantinga, to say that an object has a property essentially means "That, presumably, the object in question could not conceivably have lacked the property in question; that under no possible circumstances could that object have failed to possess that property." (p. 11) But this is hardly compatible with the link between proper names and essences forged by Plantinga.

The essentialist would, if I understand him correctly, insist that it is in virtue of Socrates' essence that kernel propositions corresponding to true essential predications of him are necessarily false, thus denying that these kernel propositions are necessarily false in virtue of the meanings of their constituent terms. And this leads directly to the denial of the claim that proper names express essences. The kernel proposition

13) Socrates has the complement of humanity.

corresponding to the true sentence "Socrates is essentially human," is necessarily false because Socrates is such that he could not have been other than human. For the essentialist, it is not the case that the necessary falsity of (13) is due to the fact that "Socrates" expresses Socrateity, and so excludes the complement of humanity. Rather, (13) is necessarily false because of certain features of "Socrates."
Indeed, Plantinga's views seem much more closely related to the idea that all necessary propositions are propositions whose truth follows from the meanings of their constituent terms. By relating proper names and essences, Plantinga assimilates modal truths containing proper names to modal truths ex vi terminorum. But then the fundamental insight of essentialism is lost: modal truths containing proper names are no longer explained by reference to how an individual might have differed and still existed. Rather, such modal truths turn out to be a by-product, as it were, of the structure of the language in which they are stated. And, as I have already over-emphasized, construing modal truths containing proper names as truths ex vi terminorum conflicts with the basic insight of essentialism.

If the expression of essences by proper names conflicts with the intuitive basis of essentialism, then the semantic relation between proper names and essences, affirmed by II, should be rejected by the essentialist. Moreover, earlier considerations established that a theory of essentialism which maintained D1 and D2 while rejecting II would be tenable. In light of the misgivings expressed concerning II, it seems appropriate to propose such a theory as an alternative to Plantinga's. A theory developed along these lines could preserve the accomplishments of Plantinga's theory—namely, the reduction of the de re to the de dicto—yet it would eliminate the feature of Plantinga's views which render them inconsonant with the essentialist's intuition. Thus, it is plausible to suggest that such a theory might capture the intuitive basis of essentialism more adequately than Plantinga's.

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NOTES


2 Strictly speaking, D1 must be altered to allow for de re claims concerning unnamed objects. For this it suffices to add to D1, "... otherwise K(x,P) is the proposition that would be expressed by the result of the indicated replacement if x and P were baptized" (Plantinga, p. 32). Henceforth, all references to Plantinga's book will be made by parenthesized numerals, indicating pages of reference, occurring in the text.


4 This seems to be the thrust of the argument at p. 79.


7 Cf. in particular Kripke's "Naming and Necessity."