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Kripke's Two Definitions of Rigid Designation

Philosophers, following Kripke, have formulated their notions of rigid designation in two ways. One way focuses on objects and defines a rigid designator as "referring to the object in every possible world in which the object exists" (I will call it 'the first definition').[1] The other way focuses on designators and defines a rigid designator as "referring to the same object in every possible world in which the designator refers at all" (I will call it 'the second definition').[2] The difference between these two definitions has not gone unnoticed, but to my knowledge the origin of the second definition and the consequences of the inconsistency between these two co-existing definitions have not been carefully explored.[3] I shall show that Kripke in *Naming and Necessity* is accountable for both definitions and he would have to make a hard choice to maintain consistency.

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[1] Cf. Nathan Salmon, *Reference and Essence* (Princeton, 1981), p. 33; and A. C. Grayling, *An Introduction to Philosophical Logic* (Sussex, 1982), p. 182.

[2] Cf. Hilary Putnam, "Meaning and Reference," *Journal of Philosophy* 70 (1973): 707; Richard Boyd, "Materialism without Reductionism: What Physicalism Does Not Entail," in Ned Block (ed.), *Readings in the Philosophy of Psychology* (Cambridge, Mass. 1980), 1:77-78; and Michael Dummett, *Frege: Philosophy of Language* (New York: Harper and Row, 1973), p. 126.

[3] For instance, Salmon believes it was Dummett, Linsky, and Putnam who proposed the second definition (1981, p. 33); Monte Cook writes: "although this latter notion does not occur in *Naming and Necessity*, it is easy to see how one might take it as simply a variation of the notion of a term's designating the same individual in every world in which that individual exists" ("Names and Possible Objects," *Philosophical Quarterly* 35 [1985]: 305).

I

In *Naming and Necessity* Kripke states that a term is "a rigid designator if in every possible world it designates the same object, a non-rigid or accidental designator if that is not the case."[4] This definition alone is open to three interpretations: first, a rigid designator designates the same object in every possible world in which the object exists; second, a rigid designator designates the same object in every possible world in which it designates anything at all; and thirdly, a rigid designator designates the same object in every possible world no matter whether the object actually exists or not.

Kripke's position on the third interpretation is unclear. In *Naming and Necessity*, he "deliberately ignore(s) delicate questions arising from the possible nonexistence of an object (p. 21, n. 21). Although his introduction of the notion of a *strongly* rigid designator — a rigid designator whose designatum exists in all possible worlds — seems to suggest that he did not intend the third interpretation, Kripke's commentators are divided on this issue.[5] The third interpretation, however, is not my concern in this paper. Rather, I concentrate on problems with the first two interpretations. Following his initial definition, Kripke writes: "a designator rigidly designates a certain object if it designates that object wherever the object exists" (pp. 48–49). Thus it appears that between the two interpretations Kripke has narrowed his definition down to the first one. But the story does not end here. Along with his definition Kripke also offers an intuitive test for rigidity. It is from this, I shall argue, that the notion of the second definition emerges.

Kripke has put the intuitive test in two forms. He writes: "although the man (Nixon) might not have been the President, it is not the case that he might not have been Nixon" (p. 49). He also writes: "although someone other than the U.S. President in 1970 might have been the U.S. President in 1970 (e.g., Humphrey might have), no one other than Nixon might have been Nixon" (p. 48). That is, the first form of the intuitive test is '*D*

might not have been *D*' and the second is 'someone (or something) other than *D* might have been *D*', '*D*' being any designator. These two forms are not equivalent. For example, given Kripke's position that a person could not have been born to different parents, we may say it is not the case that someone other than the father of Richard Nixon might have been the father of Richard Nixon. Hence the designator 'the father of Richard Nixon' passes the intuitive test in one form and is rigid. The other form of the test asks whether the father of Richard Nixon might not have been the father of Richard Nixon. In one sense, when we say the father of Richard Nixon might not have been the father of Richard Nixon, we have expressed a contradiction. But in another sense, we *can* meaningfully say this, just as we can say the U.S. President in 1970 might not have been the U.S. President, meaning that the person who was the U.S. President in 1970 in this world might not have been elected the President in some possible world. In the same way, that the father of Richard Nixon might not have been the father of Richard Nixon can mean that the person who is in fact the father of Richard Nixon, i.e., Francis Nixon, might not have begot his son Richard Nixon and become a father. In this way, 'the father of Richard Nixon' fails this form of the test and is a non-rigid designator.

The connection between these two forms of the test on the one hand and the two definitions on the other is not difficult to see. The first form of the test has the schema 'whether *D* might not have been *D*'. Since it is not the case that Nixon might not have been Nixon, the designator 'Nixon' passes this test for rigidity. That it is not the case that Nixon might not have been Nixon is compatible with that he has to be Nixon in every possible world in which he exists. Since Kripke believes that the rigid designator 'Nixon' refers to Nixon even if we speak of the counterfactual situation that Nixon might not have been *called* 'Nixon' (p. 49), 'Nixon' refers to Nixon in every possible world in which Nixon exists. Thus, 'Nixon' is rigid by the first definition. 'The father of Richard Nixon' does not pass the intuitive test of this form, because it *is* the case that the father of Richard Nixon might not have been the father of Richard Nixon. Nor is 'the father of Richard Nixon' a rigid designator by the first definition, because in a possible world Francis Nixon might have been childless even though he exists. We would not designate him in such a world as 'the father of Richard Nixon'. This is so because 'the father of Richard Nixon' is a definite description. Definite descriptions have meanings. Just as

whether we would use 'the inventor of bifocals' to designate Benjamin Franklin in a possible world depends on whether Franklin invented bifocals in that possible world, whether we would use 'the father of Richard Nixon' to designate Francis Nixon in a possible world depends on whether Francis Nixon in that possible world has the son Richard Nixon. Had Franklin not invented bifocals in a possible world, he would not have been the inventor of bifocals in that possible world. Similarly, if Francis Nixon had not had the son Richard Nixon in a possible world, Francis Nixon would not have been the father of Richard Nixon in that world.[6] Thus, the effect of this form of test coincides with Kripke's first definition of rigidity that a rigid designator designates the same object wherever the object exists.

The second form of the intuitive test has the schema 'whether someone (or something) other than D might have been D'. For example, we can say that no one other than Nixon might have been Nixon. The same can be said of 'the father of Richard Nixon'. Since Kripke holds that Richard Nixon might not have been born to different parents, no one other than the father of Richard Nixon (i.e., Francis Nixon) might have been (at least for Kripke) the father of Richard Nixon. To say that no one other than the father of Richard Nixon might have been the father of Richard Nixon implies that wherever the designator 'the father of Richard Nixon' as that designator refers, it refers to the same person. Therefore, 'the father of Richard Nixon' is also rigid by the second definition, which says that a rigid designator refers to the same object in every possible world with respect to which the designator refers. Thus, the effect of the second form of test coincides with the second definition of rigidity.

Some Kripke commentators have taken the first form to be the sole schema of the intuitive test.[7] M. J. More noted the non-equivalence between the first form of the test and the second definition of rigidity, but he did not trace the connection between the second form of the intuitive test and the second definition of rigidity. More derives the second

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6 If 'the father of Richard Nixon' is used to designate Francis Nixon even if he did not have the son Richard Nixon, either we have a contradiction because it means Francis is the father of Richard Nixon while Francis is not, or the expression has no meaning. If it has no meaning, we cannot legitimately say it is the *same* expression as the one that has meaning, even though they appear in the same letters.

7 For instance, see Colin McGinn, "Rigid Designation and Semantic Value,"

definition from Kripke's statement "what do I mean by 'rigid designators'? I mean a term that designates the same object in all possible worlds" (More, p. 83). I think from this statement alone one cannot definitely derive the second definition, because it can be interpreted in three ways, as I have pointed out, and Kripke did not explicitly indicate it should be interpreted only as the second. It is the second form of the intuitive test that supports the second interpretation, because the second form of the intuitive test is compatible with the second interpretation, but not the first one. Since Kripke has employed both forms, he is not only accountable for the first definition as explicitly stated, but also accountable for the second definition which is a reasonable interpretation of his general definition of rigidity that is supported by the second form of the intuitive test.

It appears that in *Naming and Necessity* Kripke was not aware of the difference between these two forms of the intuitive test, and mistakenly equated the second form of the test with the first definition, as he used the phrase 'in the same way' to connect them in one paragraph (pp. 48–49). But the non-equivalence between the two definitions is evident. For example, it is not the case that 'the father of Richard Nixon' designates the same object (Francis Nixon) wherever he exists (the first definition); he might not have been the father of Richard Nixon (the first form of the intuitive test); because he might not have begot the son Richard Nixon even though Francis Nixon exists. Therefore it is not rigid by this criterion. Nevertheless it designates the same object with respect to all possible worlds in which it refers at all (the second definition); it is not the case that someone other than the father of Richard Nixon might have been the father of Richard Nixon (the second form of the intuitive test); because, as Kripke has argued, Richard Nixon has an essential relation with Francis Nixon and only Francis Nixon could become Richard Nixon's father. Therefore 'the father of Richard Nixon' is rigid by this criterion.

Then, by holding both definitions at the same time, Kripke has generated an inconsistency. By his first definition, 'the father of Richard Nixon' is not a rigid designator; by the second, it is rigid. Designators of Richard Nixon' is not a rigid designator; by the second, it is rigid. Designators of Richard

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Philosophical Quarterly 32 (1982): 98; and M. J. More, "Rigidity and Identity across Possible Worlds," *Analysis* 42 (1982): 83.

this kind are stuck between the two definitions because they have an essential connection with a rigid designator which is an essential component of the complex designator. On the one hand, as in the above case, 'Richard Nixon', a rigid designator, is an essential component of 'the father of Richard Nixon'. If 'Richard Nixon' fails to designate anything in a possible world, or if it designates something that has no such essential relation with Francis Nixon, the whole designator 'the father of Richard Nixon' will not designate Francis Nixon. Therefore, whether 'the father of Richard Nixon' designates its object in a possible world depends not only on the existence of the object under consideration, but also on the existence of the object designated by 'Richard Nixon'. On the other hand, in cases of this kind, there are two (or more) objects involved and the existence (or coming to exist) of one depends on the existence of the other, but not vice versa. This relationship determines the object to which the designator could possibly apply. In the Nixon case, because the existence (or coming to exist) of Richard Nixon partly depends on the existence of Francis Nixon, Francis Nixon cannot be replaced by anyone else in this relationship. Therefore, 'the father of Richard Nixon' cannot designate a different object as some other definite descriptions would do. Putting the two aspects together, we have a family of terms each of which designates the same object in every possible world in which it refers at all, while still it might not pick out that same object in some possible worlds in which the object exists.

II

Serious consequences follow the inconsistency between the two definitions. If Kripke holds that a rigid designator has to designate a certain object wherever the object exists, he would have to abandon the second definition. He would *not* be able to tell a rigid designator by asking whether someone or something other than *D* might have been *D*. In other words, because Kripke would have to consider designators such as 'the father of Richard Nixon' as non-rigid, he would not be able to say that a non-rigid designator might pick out different objects in different possible worlds, because designators such as 'the father of Richard Nixon' only designate the same object in all possible worlds in which they designate

anything at all. But the thesis that a rigid designator designates the same object in every possible world while a non-rigid designator might pick out different objects in different possible worlds is considered as one of Kripke's most significant contributions to philosophy of language, which he may not want to give up.

Then, what if Kripke sticks to the second definition of rigidity? If so, 'the father of Richard Nixon' would be a rigid designator. One advantage of doing this is that, by ruling designators such as 'the father of Richard Nixon' as rigid, Kripke would be able to hold on to his intuition that a non-rigid designator would pick out different objects in different possible worlds. But he would have to abandon the first one. He would have to reject the thesis that a rigid designator designates the same object wherever the object exists, and allow a rigid designator (e.g., 'the father of Richard Nixon') to fail in designating its object in a possible world even though the object (e.g., Francis Nixon) exists.

One might think the divergence can be accommodated if we take the first definition (and the first form of the intuitive test) as giving only a sufficient, but not a necessary, condition for being a rigid designator. Accordingly, a designator is rigid if it is qualified as rigid by at least one of the two definitions, and thus the two definitions would work together without contradicting each other. But the very acceptance of the second definition itself generates a problem for Kripke. The second definition of rigid designators contradicts Kripke's necessity of identity thesis.

According to Kripke, if 'X' and 'Y' are both rigid designators, and 'X= Y' is true, it must be true in all possible worlds in which the object exists (pp. 147–49). Kripke does not consider whether the statement is true in a possible world in which the object does not exist. But in discussing necessary identity between the two rigid designators 'Hesperus' and 'Phosphorus', Kripke writes: "If we wish to be somewhat more careful, we could replace the statement 'Hesperus is Phosphorus' by the conditional, 'if Hesperus exists then Hesperus is Phosphorus', cautiously taking only the latter to be necessary" (p. 110). He also believes that necessary identity of this sort to be not *ad hoc*, but a general thesis of rigid designators; it does not only hold between names, but also between rigid designators in general (p. 140). When we come to designators such as 'the father of Richard Nixon' and 'Francis Nixon', things turn out to be different. In this world the father of Richard Nixon is identical with

Francis Nixon, and the statement 'Francis Nixon is the father of Richard Nixon' is true. If the two designators are both rigid by the second definition, by Kripke's necessity of identity thesis the statement would have to be true in all possible worlds in which the object exists. Like 'if Hesperus exists then Hesperus is Phosphorus', it should be true that 'if Francis Nixon exists then he is the father of Richard Nixon'. But obviously it is not the case. It is not true in a possible world in which Francis Nixon did not beget Richard Nixon. Therefore, either Kripke's necessity of identity thesis is invalid or at least one of the two designators, 'the father of Richard Nixon' and 'Francis Nixon', is not rigid. Because 'Francis Nixon' is a proper name that designates a real object, it has to be a rigid designator for Kripke. So either 'the father of Richard Nixon' is not a rigid designator, which would invalidate Kripke's second form of the intuitive test for rigidity as well as the second thesis, or Kripke's necessity of identity thesis as a general thesis is false. 'The father of Richard Nixon' is a rigid designator by the second definition, and cannot be non-rigid under this criterion. Therefore there has to be something wrong with his necessity of identity thesis if he holds on to the second definition.

Could Kripke save his necessity of identity thesis by revising it so that a statement of identity is necessary if and only if it is true with respect to every possible world in which all the terms therein refer? I think he could not afford this. The necessity of identity thesis has been a very powerful weapon for Kripke. For instance, he uses it to argue against the materialistic mind–body identity theory. He argues that both 'pain' and 'the stimulation of C-fibers' are rigid designators; if 'pain is the stimulation of C-fibers' is true, this identity must be necessary (pp. 147-49). That is, we will not find a possible world in which there is the stimulation of C-fibers but no pain. Kripke persuasively argues that we can imagine that "the stimulation of C-fibers can itself exist without pain," and concludes: "Such a situation would be in flat out contradiction with the supposed necessary identity of pain and the corresponding physical state, and the analogue holds for any physical state which might be identified with a corresponding mental state" (p. 151). If Kripke loosens the necessity of identity thesis, his argument against the mind–body identity theory would no longer carry force, because the identity theorist may simply state that the designator of a

mental state might not refer in that possible world. For example, suppose pain is definable as the stimulation of C-fibers which occupies a certain causal role. Then the relation between 'pain' and 'the stimulation of C-fibers' would be similar to that between 'the father of Richard Nixon' and 'Francis Nixon'.[8] 'Pain' will designate the stimulation of C-fibers wherever it refers, but it might not designate the stimulation in some possible worlds; namely, when the stimulation does not occupy that causal role. So the materialist can say that, just as there might have been Francis Nixon who did not beget Richard Nixon, there might have been the stimulation of C-fibers which did not occupy the relevant causal role and thus turned out not to be pain.[9] Such a revision of the necessity of identity thesis may be too much of a price for Kripke to pay. However, no matter which way Kripke chooses, he cannot keep his theory of rigid designation intact as it stands.[10]

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[8] It should be noted that it is not the case that complex designators are rigid only under the second definition, nor is it the case that the difference of the degree of rigidity can be drawn between singular rigid designators on the one hand and complex rigid designators on the other. For example, let's call the zygote that originated Richard Nixon 'Zygote Z'. 'The person originated from Zygote Z' and 'Richard Nixon' would be two rigid designators by both definitions. On the one hand, 'the person originated from Zygote Z' is a complex designator very much like 'the father of Richard Nixon'; on the other hand, there seems to be a necessary identity between 'the person originaged from Zygote Z' and 'Richard Nixon' wherever one of these two designators refers. Therefore, all complex designators cannot be excluded from the necessity of identity thesis. Kripke cannot simply say the necessity of identity only holds between non-complex rigid designators.

[9] I do not intend to develop or defend a mind–body identity theory here. All I want to show is the potential damage that would result if Kripke chooses this way.

[10] An early verson of this paper was presented at the conference of the American Philosophical Association, the Pacific division, March 27-30, 1991 I am grateful to Samuel C. Wheeler III, Joel J. Kupperman, Ruth Barcan Marcus, Ray Elugardo, Ruth G. Millikan, Dan Ginsberg, John Troyer, and Crawford Elder for their valuable comments and suggestions.