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**Kripke on Epistemic and Metaphysical Possibility:  
Two Routes to the Necessary *Aposteriori***

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Saul Kripke's discussion of the necessary *aposteriori* in Naming and Necessity and "Identity and Necessity" -- in which he lays the foundation for distinguishing epistemic from metaphysical possibility, and explaining the relationship between the two -- is, in my opinion, one of the outstanding achievements of twentieth century philosophy.<sup>1</sup> My aim in this essay is to extract the enduring lessons of his discussion, and disentangle them from certain difficulties which, alas, can also be found there. I will argue that there are, in fact, two Kripkean routes to the necessary *aposteriori* -- one correct and philosophically far-reaching, the other incorrect and philosophically misleading.<sup>2</sup>

### **Propositions**

Although Kripke avoids the word 'proposition' in Naming and Necessity, and tries to keep his theoretical commitments to a minimum, he speaks repeatedly of the necessary or contingent "statements," and "truths" knowable *apriori* or *aposteriori*, that sentences express. Evidently, then, he thinks that there are things expressed by sentences that are both bearers of truth value and objects of attitudes like knowledge. Since this is what propositions are supposed to be, his discussion can be understood as implicitly involving propositions, while avoiding, as far as possible, substantive theoretical commitments about what they are. Thus, it should be safe to introduce the word into our discussion, so long as we limit our assumptions about propositions to those that are least objectionable, and most in tune with Kripke's implicit presuppositions.

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<sup>1</sup> Saul Kripke, Naming and Necessity, (Cambridge, MA: Harvard University Press), 1980; "Identity and Necessity," in Milton Munitz, ed., Identity and Individuation, (New York: NYU Press), 1971.

<sup>2</sup> For a discussion of the philosophical significance of a correct understanding of this matter, see my "The Philosophical Significance of the Kripkean Necessary *Apriori*," forthcoming.

- A1. Some things are asserted, believed and known. For an agent to assert, believe, or know something is for the agent to stand in a relation to that thing.
- A2. The things asserted, believed and known are bearers of (contingent or necessary) truth and falsity. These things, which we may call ‘propositions’, are expressed by sentences. The proposition expressed by S is designated by expressions such as ‘the proposition that S’, ‘the statement/claim/assertion/belief that S’ or simply ‘that S’ -- e.g., the proposition expressed by ‘Hesperus is Phosphorus’ is the proposition that Hesperus is Phosphorus.
- A3. Since different sentences may be used to assert the same thing, or express the same belief, and different beliefs or assertions may result from accepting, or uttering, the same sentence, propositions are not identical with sentences used to express them. Intuitively, they are what different sentences, or utterances, that say the same thing have in common, whatever that may turn out to be.
- A4. Attitude ascriptions – ‘x asserts, believes, knows (*apriori* or *aposteriori*) that S’ – report that an agent bears a certain attitude to the proposition expressed by S (in the context).

Kripke’s central thesis about the necessary *aposteriori* is that for some propositions p, p is both necessarily true and knowable only on the basis of empirical evidence.

### **Essentialism and the Distinction between Epistemic and Metaphysical Possibility**

Kripke’s first, and most compelling route to the necessary *aposteriori* is illustrated by (1-4).

- 1. Greg Soames ≠ Brian Soames
- 2. If Saul Kripke exists, then Saul Kripke is a human being.
- 3. This desk (pointing at the one in my office) was not made out of metal.
- 4. If this desk exists, then it is made of molecules.

Since these propositions are true, they are, according to Kripke, necessarily true. However, it is obvious that they are knowable only *aposteriori*. How can this be? How can a proposition that is necessary, and known to be so, also be knowable only *aposteriori*? Kripke's answer appeals to our knowledge of essential properties and relations.<sup>3</sup> We know *apriori* that being human, being a desk that was not (originally) made out of metal, and being a desk made of molecules are essential properties of anything that has them. We also know *apriori* that being non-identical is a relation that holds essentially of any pair it relates. So, we know *apriori* that if any objects have these properties, or stand in this relation, then they have, or stand in, them in any genuinely possible circumstance in which they exist. Hence, we know *apriori* that propositions (1-4) are necessary, if true. Still, discovering that they are true requires empirical investigation. This means that in order to discover whether certain things are true in all states that the world could, genuinely, have been in, and other things are true in no such states, we sometimes must first discover what is true in the state the world actually is in. Sometimes in order to discover what could and could not be, one first must discover what is.

Implicit in this route to the necessary *aposteriori* is a sharp distinction between epistemic and metaphysical possibility – between ways things could *conceivably* be vs. ways things could *really* be (or have been). It is natural to draw this distinction in terms of the notion of a *possible world*, or better, a *possible world-state*. For Kripke, possible states of the world are *not* alternate concrete universes, but abstract objects. Metaphysically possible world-states are maximally complete ways the real concrete universe could have been – maximally complete properties that the universe could have instantiated. Epistemically possible world-states are maximally complete ways

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<sup>3</sup> When speaking of (Kripkean) “essential” properties and relations, I mean simply *properties and relations that hold necessarily of objects (in all genuinely possible world-states in which the objects exist)*.

the universe can coherently be conceived to be – maximally complete properties that the universe can be conceived of as instantiating, and that one cannot know *apriori* that it doesn't instantiate. These two sets of properties are different. Just as there are properties that ordinary objects could possibly have had and other properties they couldn't have had, so there are certain maximally complete properties the universe could have had – metaphysically possible world-states – and other maximally complete properties the universe couldn't have had – metaphysically impossible world-states. Just as some of the properties that objects couldn't have had are properties that one can conceive them as having, and that one cannot know *apriori* that they don't have, so some maximally complete properties that the universe couldn't have had -- some metaphysically impossible world-states -- are properties that one can conceive it as having, and that one cannot know *apriori* that it doesn't have. These states of the world are epistemically possible. On this picture – which Kripke didn't make explicit, but could have -- empirical evidence required for knowledge of necessary truths like (1-4) is needed to rule out metaphysically impossible, but epistemically possible, world-states in which they are false.

According to Kripke, then, some things that are coherently conceivable are not genuinely possible. How, then, are conceivability and possibility related? Here, in effect, is his answer.

If the essentialist view is correct, it can only be correct if we sharply distinguish between the notions of a posteriori and a priori truth on the one hand, and contingent and necessary truth on the other hand, for although the statement that this table, if it exists at all, was not made of ice, is necessary, it certainly is not something that we know a priori. ... This looks like wood. It does not feel cold and it probably would if it were made of ice. Therefore, I conclude, probably this is not made of ice. Here my entire judgment is a posteriori. ... given that it is in fact not made of ice, in fact is made

of wood, one cannot imagine that under certain circumstances it could have been made of ice. So we have to say that though we cannot know a priori whether the table was made of ice or not, given that it is not made of ice, it is *necessarily* not made of ice. In other words, if P is the statement that the lectern is not made of ice, one knows by a priori philosophical analysis, some conditional of the form “if P, then necessarily P.” If the table is not made of ice, it is necessarily not made of ice. On the other hand, then, we know by empirical investigation that P, the antecedent of the conditional is true – that this table is not made of ice. We can conclude by *modus ponens*:

$$\begin{array}{l} P \supset \text{Necessarily } P \\ P \\ \hline \text{Necessarily } P \end{array}$$

The conclusion – ‘Necessarily P’ – is that it is necessary that the table not be made of ice, and this conclusion is known a posteriori, since one of the premises on which it is based is a posteriori. (“Identity and Necessity,” 152-3)

Though not put in terms of the distinction between conceivability and genuine possibility, or between two different, but related, types of world-states, the lesson of the passage can easily be so stated. In Kripke’s argument, the fact one cannot know that P *a priori* means that one cannot know *a priori* that a world-state in which it is false that P is not instantiated. Such states are coherently conceivable, and so epistemically possible. The fact that one knows *a priori* that if P, then necessarily P means that one knows *a priori* that if a world state in which it is true that P is instantiated, then no world-state in which it is false that P could have been instantiated. Thus, when one finds, empirically, that it is true that P, one learns *aposteriori* that epistemically possible world-states in which it is false that P are metaphysically impossible.

On this picture, the objects of conceivability – the things we conceive when trying to determine what is metaphysically possible – include not only individual world-states, but entire *systems* of metaphysical possibility, each with a designated “actual” world-state and a space of related states. Someone seeing my desk for the first time who doesn’t know what it was (originally) made of can conceive of a world-state in which it was made of mahogany, a world state in which it was made of oak, and perhaps even a world-state in which it was made of metal. One can conceive of each of these states being instantiated. Accompanying each state, one can conceive of related states that will be genuine metaphysical possibilities, if the initial, designated state, is instantiated. So, accompanying the designated (actual) state in which the desk was made of reddish-brown mahogany, one can conceive of related world-states in which it was made of mahogany stained another color. But given the supposition that the original state is instantiated, one can conceive of *no* state possible relative to it in which that very desk was made of some other material – e.g. oak or metal. A similar point holds for other epistemically possible world-states in which the desk *was* made of those things. When they play the role of the designated “actual” world-state – i.e. when one considers them as instantiated and asks which states are possible relative to them – one regards world-states in which the desk was made of mahogany as impossible *relative to those states*.

So we have a set of epistemically possible world-states, each of which can coherently be conceived as being instantiated. Along with each such state  $w_1$ , we have (epistemically possible) world-states  $w_2$  which we recognize to be metaphysically possible, if the initial, designated “actual” state  $w_1$  is instantiated – i.e. we recognize that if  $w_1$  were instantiated, then  $w_2$  would be a property that the universe could have had. Moreover, for each such state  $w_2$  there are (epistemically possible) world-states  $w_3$  which we recognize to be metaphysically possible, if  $w_2$  is

instantiated – i.e., we recognize that if  $w_1$  were instantiated, then  $w_3$  would be (metaphysically) possibly possible. Repeating this process indefinitely, we generate a coherently conceivable system of metaphysical possibility. Collecting all such systems together, we have a set of epistemically possible systems of metaphysical possibility. Roughly, for a world-state to be metaphysically possible (or possibly possible) is for it to be a metaphysically possible (or possibly possible) member of some epistemically possible system of metaphysical possibility *the designated world-state of which is the state that the world really is in*.

Obviously, this is not a definition of metaphysical possibility in non-modal terms (something Kripke would never countenance). Rather, it is a way of thinking about the relationship between conceivability and possibility using the primitive notion of a property that the universe could instantiate. On this picture, conceivability is a fallible, but useful, guide to metaphysical possibility. It is fallible because before we know much about what is actual, there are many epistemically possible world-states that appear to be genuinely possible, and so remain candidates for being metaphysically possible. The more we learn about the world, the more we whittle down this field of candidates, and the better able we are to identify the scope of genuine metaphysical possibility. In short, our guide to metaphysical possibility is conceivability plus knowledge of actuality. Whether or not this is a *complete* guide is a further question. If, somehow, we could discover all actual, non-modal facts, would we know precisely which world-states were metaphysically possible, possibly possible, and so on? Once ignorance of actuality is factored out, are facts about which world-states are metaphysically possible relative to others always knowable *apriori*? Neither anything I have said, nor any doctrine of Kripke's that I know of, settles the issue.

**The Scope of Kripke's Essentialist Route to the Necessary *Aposteriori***



The Essentialist Route to the Necessary *Aposteriori* (ERNA)

Let  $p$  be a true proposition that attributes a property (or relation)  $F$  to an object  $o$  (or series of objects), conditional on the object (or objects) existing (while not attributing any further properties or relations to anything). Then,  $p$  will be an instance of the necessary *aposteriori* if (a) it is knowable *apriori* that  $F$  is an essential property of  $o$ , if  $F$  is a property of  $o$  at all (or a relation that holds essentially of the objects, if  $F$  holds of them at all), (b) knowledge of  $o$  that it has  $F$ , if it exists (or of the objects that they are related by  $F$ , if they exist) can only be had *aposteriori*, and (c) knowing  $p$  involves knowing of  $o$  (or of the objects) that it (they) have  $F$ , if it (they) exist at all. ( $o$  can be an individual or a kind.)

Instances of ERNA like (2) and (4) are basic cases from which other instances can be derived. For example, since nonidentity essentially relates any pair it actually relates, an argument of this pattern establishes the necessary *aposteriority* of the proposition that Greg Soames is nonidentical with Brian Soames, if Greg and Brian exist. But since this proposition is trivially equivalent to the proposition expressed by (1), that proposition is also necessary and *aposteriori*. Similar remarks apply to (3).

Although Kripke's essentialist paradigm explains many putative instances of the necessary *aposteriority*, certain simple identities raise problems. Although such sentences are standardly taken to be paradigmatic instances of the Kripkean necessary *aposteriori*, in fact, their status is doubtful. Let  $o$  and  $o^*$  be objects to which the identity relation actually applies, and  $p$  be a proposition that (merely) attributes identity to the pair. Then, although conditions (a) and (c) of ERNA are satisfied, condition (b) is not, since knowledge of the pair – i.e. of  $\langle o, o^* \rangle$  – that identity truly applies to it can surely be had *apriori*. Thus,  $p$  is an example of the necessary *apriori*, not the necessary *aposteriori*. This point is illustrated by (5).

5.  $[\exists x: x = \text{Hesperus}] [\exists y: y = \text{Phosphorus}]$  it is a necessary truth that  $x = y$ .

Since (5) is true, the proposition expressed by ' $x = y$ ', relative to an assignment of Venus to ' $x$ ' and ' $y$ ', is a necessary truth. However, since this proposition (merely) predicates identity of Venus and itself, it is knowable *a priori*, if anything is.

Of course, not all identities pose this problem. For example, let ' $a$ ' and ' $b$ ' name the sperm and egg from which Saul Kripke actually developed. The possibility of identical twins aside, his doctrine of the essentiality of origin will then characterize (6a,b) as instances of the necessary *aposteriori*.

6a. Saul Kripke = the individual who developed from  $a$  and  $b$  (if Kripke exists).

b.  $\lambda x [\forall y (y \text{ developed from } a \text{ and } b \leftrightarrow y = x)]$  Saul Kripke (if Kripke exists).

If Kripke is right about the essentiality of origin, then the proposition  $p$  expressed by (6b) fits his essentialist account – since (a) it is knowable *a priori* that the property expressed by the lambda predicate is essential to any individual that has it, (b) knowledge of Kripke that he has this property, (if he exists) can only be had *aposteriori*, and (c) knowing  $p$  involves knowing of Kripke that he has the property, (if he exists). Hence  $p$  is an instance of the Kripkean necessary *aposteriori*. Since proposition (6a) is trivially equivalent to  $p$ , it is, too.

Similar explanations cover (7) and (8).

7. gold = the element with atomic number 79 (if gold exists).

8. water = the substance molecules of which consist of two hydrogen atoms and one oxygen atom (if water exists).

Here, 'gold' and 'water' are treated as designating (abstract) natural kinds  $k_g$  and  $k_w$  (rather than their concrete instances). Thus, the proposition expressed by (7) is trivially equivalent to the proposition  $p_g$  that predicates of  $k_g$  the property of being a unique element instances of which have a certain atomic structure (if  $k_g$  exists), and the proposition expressed by (8) is trivially equivalent to the proposition  $p_w$  that predicates of  $k_w$  the property of being a unique substance instances of

which are made up of molecules consisting of two hydrogen atoms and one oxygen atom (if  $k_w$  exists). Supposing, with Kripke, that these properties are knowable *a priori* to be essential properties of any kind that has them, even though empirical evidence is needed to justify their attribution to any particular kind, we conclude that  $p_g$  and  $p_w$  are examples of the necessary *aposteriori*. Since the propositions expressed by (7) and (8) are equivalent to them, they too fall under this heading.

Examples (9a-c)) also fit the essentialist paradigm, even though they are not strictly *identities*.

- 9a. Cats are animals.
- b. Lightning is electricity.
- c. Light is a stream of photons.

Kripke calls these *theoretical identification statements*, and gives a clue to their correct analysis when he suggests (10b) as the analysis of (10a).<sup>4</sup>

- 10a. Heat is mean molecular kinetic energy.
- b.  $\forall x \forall y (x \text{ is hotter than } y \leftrightarrow \text{the mean molecular kinetic energy of } x \text{ is greater than that of } y)$

Applying this idea to (9) yields (11).

- 11a.  $\forall x (x \text{ is a cat} \supset x \text{ is an animal})$
- b.  $\forall x (x \text{ is (an instance of) lightning} \supset x \text{ is (an instance of) electricity})$
- c.  $\forall x (x \text{ is (an instance of) light} \supset x \text{ is a stream of photons})$

Proposition (11a) is equivalent to one that predicates of the species cat the property of having only instances that are also instances of genus animal. If this property can be known *a priori* to be an essential property of any species that has it (even though knowing that a species has it requires

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<sup>4</sup> Naming and Necessity, p. 138.

empirical investigation), then (11a) falls under Kripke's essentialist paradigm. Analogous remarks hold for (11b), (11c), and (10b).<sup>5</sup>

In sum, Kripke's essentialist paradigm explains a great many genuine instances of the necessary *aposteriori*. It may even seem that all his putative examples of the necessary *aposteriori* fall into this category. However, they don't. Sentences of the form (12a), where m and n are simple coreferential names, do *not* fit the paradigm; nor do sentences of the form (13a), where K and K\* are simple natural kind terms (rigidly) designating the same kind k, and '[is a K]' and '[is a K\*]' are predicates applying to all and only instances of k.

12a.  $n = m$

b. Hesperus is Phosphorus

13a.  $\forall x [x \text{ is a } K \leftrightarrow x \text{ is a } K^*]$

b. Woodchucks are groundhogs (and conversely)

Since, according to Kripke, names don't have descriptive senses, it is natural to take a sentence consisting of names plus a relational predicate R to semantically express a proposition which predicates the relation expressed by R of the referents of the names, without any further predication. On this model, the proposition expressed by (12b) merely predicates identity of Venus and itself. Although this proposition is necessary, it seems to be knowable *apriori*. One could, of course, avoid this conclusion by adopting the assumption (foreign to Kripke) that -- in addition to predicating identity of Venus and itself -- the proposition expressed by (12b) also predicates the

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<sup>5</sup> See chapters 9-11 of my Beyond Rigidity, (New York: Oxford University Press), 2002; "Knowledge of Manifest Kinds," Facta Philosophica, 6, 2004, 159-81, and chapter 4 of Reference and Description (Princeton: Princeton University Press), 2005. Also, Nathan Salmon, "Naming, Necessity, and Beyond," Mind, 112, 2003, 475-92, Bernard Linsky, "General Terms as Rigid Designators," and my reply to Linsky, in a symposium on Beyond Rigidity, in Philosophical Studies, forthcoming.

properties of visible in the evening and being visible in the morning of Venus. However, then the proposition will be *contingent*.<sup>6</sup> Thus, although Kripke gives (12b), and other instances of (12a), as paradigmatic examples of the necessary *aposteriori*, one cannot arrive at this result by his standard essentialist route. Analogous remarks apply to instances of (13).

### **Kripke's Second (Attempted) Route to the Necessary *Aposteriori*: Hesperus and Phosphorus**

The argument for the *aposteriority* of (12b), given in the last few pages of lecture 2 of Naming and Necessity, is based on the observation that the evidence available to a speaker who understands 'Hesperus' and 'Phosphorus' is insufficient to determine that they are coreferential. Kripke illustrates this by noting that there are possible world-states *w* in which competent users of 'Hesperus' and 'Phosphorus' are in evidentiary situations qualitatively identical to ours (prior to the astronomical discovery), and yet, in *w*, the names refer to different things.

The evidence I have before I know that Hesperus is Phosphorus is that I see a certain star or certain heavenly body in the evening and call it 'Hesperus', and in the morning and call it 'Phosphorus'. I know these things. There certainly is a possible world in which a man should have seen a certain star at a certain position in the evening and called it 'Hesperus' and a certain star in the morning and called it 'Phosphorus'; and should have concluded – should have found out by empirical investigation – that he names two different stars, or two different heavenly bodies. ... And so it's true that given the evidence that someone has antecedent to his empirical investigation, he can be placed in a sense in exactly the same situation, that is *a qualitatively identical*

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<sup>6</sup> Including these properties in the contents of 'Hesperus' and 'Phosphorus', and rigidifying using the actuality operator, would preserve the necessity of (12b) (or near enough). However, such an analysis fails on independent grounds. See chapter 2 of Beyond Rigidity.

*epistemic situation*, and call two heavenly bodies ‘Hesperus’ and ‘Phosphorus’, without their being identical. So in that sense we can say that *it might have turned out either way*. (103-4, my emphasis)

This example shows that the evidence available to us, simply by being competent users of the names, doesn’t establish (12c) or (12d).

12c. ‘Hesperus’ and ‘Phosphorus’ are coreferential.

d. ‘Hesperus is Phosphorus’ expresses a truth.

Thus, these propositions are not knowable *apriori*.

However, the lesson Kripke explicitly draws is that the proposition expressed by (12b) is not knowable *apriori*.

So two things are true: first, that we do not know *apriori* that Hesperus is Phosphorus, and are in no position to find out the answer except empirically. Second, this is so because we could have evidence *qualitatively indistinguishable* from the evidence we have and determine the reference of the two names by the positions of the two planets in the sky, without the planets being the same. (104, my emphasis)

This conclusion is unwarranted. Since the proposition expressed by (12b) is true in all metaphysically possible world-states, it is true in all such states in which agents are in epistemic situations qualitatively identical to ours – even when the proposition *they* use (12b) to express is false. Although both we and they need evidence to rule out the falsity of (12c) and (12d), it has *not* been shown that when (12b) *does* express a true proposition *p*, evidence is needed to rule out the possible falsity of *p*. Since it has *not* been shown that evidence is needed to rule out the possible falsity of the proposition actually expressed by *our* use of (12b), it has *not* been shown that we can know that Hesperus is Phosphorus only *aposteriori*.

In order to derive Kripke's conclusion, one needs a premise that Kripke leaves implicit. In the passage, he exploits a familiar connection between speakers' understanding and acceptance of sentences, and our ability to use those sentences to report what they believe. Before the astronomical discovery, speakers understood but didn't accept sentence (12b); hence, it is natural to conclude, they didn't believe that Hesperus was Phosphorus. Since they wouldn't have been *justified* in accepting (12b), based on the evidence then, it is plausible to suppose that they wouldn't have been justified in believing that Hesperus was Phosphorus. But then, the proposition that Hesperus is Phosphorus must require empirical justification, in which case it must be knowable only *aposteriori* – exactly as Kripke says.

Here is the argument:

- (i) One who understands 'Hesperus is Phosphorus' (a) accepts it and believes it to be true iff one believes that Hesperus is Phosphorus, and (b) would be justified accepting it and believing it to be true iff one would be justified in believing that Hesperus is Phosphorus.
- (ii) In order to be justified in accepting 'Hesperus is Phosphorus' and believing it to be true, one needs evidence that the two names refer to the same thing. Given that one knows that 'Hesperus' designates the heavenly body seen in the evening and that 'Phosphorus' designates the heavenly body seen in the morning, one needs evidence that these are one and the same.
- (iii) Since one needs empirical evidence in order to be justified in believing that Hesperus is Phosphorus, it is knowable only *aposteriori*.

When expressed in the framework of propositions, this argument presupposes the following premise.

Strong Disquotation and Justification (SDJ)

If x understands S, uses S to express p, and knows that S expresses p, then (a) x believes p iff x accepts S (and believes it to be true), and (b) x would be justified in believing p

on the basis of evidence  $e$  iff  $x$  would be justified in accepting  $S$  (and believing it to be true) on the basis of  $e$ .

One who understands ‘Hesperus is Phosphorus’, while associating the names with ‘the heavenly body visible in the evening’, and ‘the heavenly body visible in the morning’, will justifiably accept the sentence and believe it to be true only if one justifiably believes that the heavenly body visible in the evening is the heavenly body visible in the morning. This descriptive belief doesn’t involve any *de re* belief about Venus, and so is sort that Kripke is looking for in his argument. Since justification for this belief requires empirical evidence, justification for accepting ‘Hesperus is Phosphorus’ does too. SDJ transfers this requirement to one’s belief in the proposition one uses the sentence to express – presumably, in our case, the proposition that Hesperus is Phosphorus. Hence, our knowledge of this proposition can only be *aposteriori*.

### **Extension of the Argument to Other Instances of the Necessary *Aposteriori***

In lecture 3, Kripke generalizes this explanation to all cases of the necessary *aposteriori*. After summarizing his analysis of natural kind terms, and illustrating their role in expressing instances of the necessary *aposteriori*, he takes up a challenge. Up to now, when describing these instances, he emphasizes that although they are necessary, for all we knew prior to empirically discovering their truth, *they could have turned out otherwise*. Realizing that this may sound puzzling, he gives voice to the following objection.

Now in spite of the arguments I gave before for the distinction between necessary and *apriori* truth, the notion of *aposteriori* necessary truth may still be somewhat puzzling. Someone may well be inclined to argue as follows: ‘You have admitted that heat might have turned out not to have been molecular motion, and that gold might have turned out not to have been the element with the atomic number 79. For that matter,



you also have acknowledged that ...this table might have turned out to be made from ice from water from the Thames. I gather that Hesperus might have turned out not to be Phosphorus. What then can you mean when you say that such eventualities are impossible? If Hesperus might have *turned out* not to be Phosphorus, then Hesperus might not have *been* Phosphorus. And similarly for the other cases: if the world could have *turned out* otherwise, it could have *been* otherwise. (140-1)

The objection covers all instances *p* of the necessary *aposteriori*. Since *p* is *aposteriori*, its falsity must be conceivable, and so, it would seem, knowledge of *p* must require empirical evidence ruling out possibilities in which *p* is false. Without such evidence, *it could turn out that p is false*. But, the objector maintains, if *p* is necessary, there are no such possibilities to be ruled out, since no matter what possible state the world is in, it is a state in which *p* is true. Thus, if *p* is necessary, we don't require empirical evidence to know *p* after all, and if *p* is *aposteriori*, then *p* isn't necessary. Either way, the necessary *aposteriori* is an illusion.

Kripke begins his reply by invoking an idea central to his account of (12b). According to that account, the function of empirical evidence needed for knowledge that Hesperus is Phosphorus is *not* to rule out possible world-states in which the proposition is false. There are no such states. Rather, evidence is needed to rule out possible states in which we use the *sentence* (12b) to express something false. Ruling this out involves putting aside our *de re* beliefs about Venus, and determining whether our justified *descriptive* beliefs are up to the task. If they fail to rule out the possibility of an epistemic state *qualitatively identical* to ours in which the names refer to different things, then we can't rule out the falsity of the sentence we accept, and so, the thought goes, we can't justify the belief we use the sentence to express. Kripke's task is to extend this explanation of (12b) to all instances of the necessary *aposteriori*.

The objector is correct when he argues that if I hold that this table could not have been made of ice, then I must also hold that it could not have turned out to be made of ice; *it could have turned out that P* entails that P could have been the case. What, then, does the intuition that the table might have turned out to have been made of ice or of anything else, that it might even have turned out not to be made of molecules, amount to? I think that it means simply that there might have been *a table* looking and feeling just like this one and placed in this very position in the room, which was in fact made of ice. In other words, I (or some conscious being) could have been *qualitatively in the same epistemic situation* that in fact obtains, I could have the same sensory experience that I in fact have, about *a table*, which was made of ice. (141-2)

Suppose I encounter a table. I examine it and come to know that it is made of wood, not ice. For all I knew, prior to my investigation, *it could have turned out* that the table was made of ice. Kripke tells us that this intuition -- that *it could have turned out* that the table was made of ice -- is simply the recognition that it is genuinely possible for an agent to be in a situation qualitatively identical to mine prior to my investigation, and be facing a table that *is* made of ice. He generalizes this point in the next paragraph.

The general answer to the objector can be stated, then, as follows: Any necessary truth, whether *apriori* or *aposteriori*, could not have turned out otherwise. In the case of some necessary *aposteriori* truths, however, we can say that under appropriate qualitatively identical evidential situations, an appropriate corresponding qualitative statement might have been false. The loose and inaccurate statement that gold might have turned out to be a compound should be replaced (roughly) by the statement that it is logically possible that there should have been a compound with all the properties

originally known to hold of gold. The inaccurate statement that Hesperus might have turned out not to be Phosphorus should be replaced by the true contingency mentioned earlier in these lectures: two distinct bodies might have occupied, in the morning and the evening, respectively, the very positions actually occupied by Hesperus-Phosphorus-Venus. (142-3)

Here we have the generalization of (12b). In pointing at the table and saying ‘This table is not made of ice’, I express a necessary truth – since *this very table* could not have been made of ice. However, I would not accept, and would not be justified in accepting, the sentence uttered, unless I *also* believed, and was justified in believing, the descriptive proposition DP that *a unique table over there is not made of ice*. It is my justified belief in DP (shared by agents in qualitatively identical states) that rules out possible situations in which my utterance fails to express a truth. DP is, of course, contingent rather than necessary, and hence not to be confused with the (singular) proposition expressed by the indexical sentence uttered. Still, since I am justified in believing DP only on the basis of empirical evidence, and, since this evidence is required for my utterance to be justified, my justification for accepting the sentence uttered requires empirical evidence. From SDJ, it follows that although it is a necessary truth that *this table* is not made of ice, my knowledge of this truth requires empirical justification, and so is *aposteriori*.

This is Kripke’s second route to the necessary *aposteriori*. All his examples contain names, natural kind terms, or demonstratives, and semantically express propositions knowledge of which involves *de re* knowledge of the individuals or kinds those terms designate. The *necessity* of these propositions is explained by their attribution of essential properties and relations to those individuals or kinds. Their *aposteriority* is explained -- in his *first* route to the necessary *aposteriori* – by the fact that the properties and relations can be known to apply to

particular individuals and kinds only *aposteriori*. This explanation, though general, excludes simple identities. Thus, it applies to (1-4) and (6-11), but *not* (12) and (13). Kripke's *second* (attempted) explanation is meant to apply not only to these stragglers, but to the other cases, as well. In the second route, knowledge of a necessary proposition *p* is linked to acceptance of a sentence *S* used to express *p* – which in turn is linked to knowledge of a descriptive proposition *DP* for which empirical evidence is required. Since justification for accepting *S*, and believing *DP*, requires empirical evidence, this evidence is also required for knowledge of *p*.

The two routes to the necessary *aposteriori* differ as follows:

- (i) The first route applies to a proper subset of cases to which the second is meant to apply.
- (ii) Only the first route leads to the recognition of epistemically possible world-states over and above those that are metaphysically possible.
- (iii) Only the first takes the empirical evidence needed for *aposteriori* knowledge of *p* to rule out epistemic possibilities in which *p* is false.

There is also another important difference. The first route is, as I have indicated, sound. The second is not.

### **The Unsoundness of Kripke's Second Route to the Necessary *Apoteriori***

The problem with Kripke's second route to the necessary *aposteriori* is that the principle, SDJ, on which it depends requires an unrealistic degree of transparency in the relationship between sentences and the propositions they express. *S*<sub>1</sub> and *S*<sub>2</sub> may mean the same thing, or express the same proposition *p*, even though a competent speaker who understands both, and knows of each that it expresses *p*, does *not* realize that they express the same proposition. Such an agent may accept *S*<sub>1</sub>, and believe it to be true, while refusing to accept *S*<sub>2</sub>, or believe it to be true, thereby

falsifying SDJ. One such agent is Kripke's Pierre.<sup>7</sup> Although he understands both 'Londres est jolie' and 'London is pretty', he does not realize that they mean the same thing, and so accepts one while rejecting the other. Since SDJ yields the contradictory result that Pierre both believes and does not believe that London is pretty, it cannot be accepted.

A similar result can be reached using Kripke's example of Peter, who encounters different occurrences of (14), wrongly believing that they are about two different men named 'Paderewski'.

14. Paderewski had remarkable musical talent

Since neither the name nor the sentence is ambiguous, the proposition semantically expressed doesn't change from one occasion, in which Peter accepts (14) because he takes it to be about a musician, to another occasion, in which he rejects (14) because he takes it to be about a statesman. Since Peter understands (14) without realizing that Paderewski the musician is Paderewski the statesman, his acceptance of (14) in one case, and rejection of it in another, leads, by SDJ, to contradiction. Similar results involving indexicals are easily obtained.<sup>8</sup> For these reasons, both SDJ and Kripke's second route to the necessary *aposteriori* must be rejected -- unless some other principle can be found to take the place of SDJ.

When SDJ is applied to Kripke's examples, belief in singular propositions (about individuals or kinds) is linked to acceptance of specific sentences (containing names, indexicals, or natural kind terms) that express them -- which, in turn, is linked to belief in certain descriptive propositions related to the original singular propositions. This suggests the possibility of dropping the problematic SDJ, and linking the singular propositions directly to their descriptive

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<sup>7</sup> Saul Kripke, "A Puzzle About Belief," Meaning and Use, A. Margalit, ed. (Dordrecht: Reidel), 1979.

<sup>8</sup> See chapter 1 of Beyond Rigidity, chapter 15 of Philosophical Analysis in the Twentieth Century, Vol. 2, (Princeton: Princeton University Press), 2003.

counterparts. In the case of (12b) my belief that Hesperus is Phosphorus might be linked to (something like) my belief that the heavenly body visible in the evening is the heavenly body visible in the morning, while in the case of Kripke's example about the table, my belief that it is not made of ice might be linked to (something like) my belief that *a unique table over there* is not made of ice. The idea, in each case, is that the linked beliefs are related in two ways: (i) my coming to have the descriptive belief, in the circumstances in question, is necessary and sufficient for me come to believe the singular proposition, and (ii) my justification for believing the singular proposition rests on my justification for the descriptive belief. Since in each case, justification of the descriptive belief requires empirical evidence, my belief in the putative instance of the necessary *aposteriori* is taken to require the same evidence.

The resulting nonmetalinguistic substitute for SDJ that emerges from this line of thought is, roughly, the following.

The Strong Descriptive Origin and Justification of *De Re* Belief (SDOJ)

If an agent *x* in a circumstance *C* is capable of believing a singular proposition *p* by virtue of believing a certain related descriptive proposition *DP*, then (a) *x* believes *p* in *C* iff *x* believes *DP* in *C*, and (b) *x* would be justified in believing *p* in *C* on the basis of *e* iff *x* would be justified in believing *DP* in *C* on the basis of *e*.

SDOJ can be used in Kripke's second route to the necessary *aposteriori* in essentially the same way that SDJ was. Thus, if one accepts the idea that belief in singular propositions about individuals or kinds always results from (or is accompanied by) believing certain related descriptive propositions, one can substitute SDOJ for SDJ, while preserving the structure of Kripke's second route to the necessary *aposteriori*.

However, one cannot *save* the route in this way, since the same counterexamples that falsify SDJ also falsify SDOJ. In the case of Pierre, a proponent of the idea that belief in singular

propositions always arises from belief in associated descriptive propositions must admit that there are several ways that Pierre can come to believe singular propositions about London. He may, for example, come to believe that London is pretty either by believing that the city he lives in is pretty or by believing that the city on the picture postcards brought from Paris is pretty. SDOJ will then give the results that he believes that London is pretty (i) iff he believes that the city he lives in is pretty and (ii) iff he believes that the city on the picture postcards brought from Paris is pretty. Since in fact he believes that the city in the pictures is pretty while failing to believe that the city he lives in is pretty, SDOJ leads to the contradictory conclusion that Pierre both believes and does not believe that London is pretty. The case of Peter and Paderewski yields a similar, unacceptable conclusion. For this reason, SDJ, SDOJ and Kripke's second route to the necessary *aposteriori* must all be rejected. Fortunately, this rejection does not diminish the correctness of his first route to the necessary *aposteriori*. The only thing cast into doubt is the *aposteriority* of (12) and (13).

### **Origins of SDJ and SDOJ**

Although SDJ and SDOJ are false, each may be seen as an incorrect generalization of a defensible idea. The guiding idea behind SDJ is that many of our beliefs (including those in singular propositions) are the result of understanding and accepting sentences (or other representations) that express them. The guiding idea behind SDOJ is the view (i) that thinking of an individual or kind always involves thinking of it *in a certain way* -- as the bearer of a certain descriptive property -- and (ii) that because of this, believing the bare singular proposition that *o* is *F*, always involves also believing a related, descriptive proposition in which some further property

is used to think about o.<sup>9</sup> These ideas – behind SDJ and SDOJ – have considerable plausibility, and nothing said here shows them to be false.

The two ideas may be formulated roughly as follows.

The Metalinguistic Origin and Justification of (Some) Belief (MOJB)

Let A be a certain class of agents (including us), C a certain class of contexts, and P a certain class of propositions (including singular propositions about individuals or kinds).

For any member x of A, c of C, and p of P, (i) x believes p in c iff there is a sentence (or representation) s such that x understands s, x knows that s expresses p in c and x accepts s in c (thereby believing p), and (ii) x would be justified in believing p in c on the basis of evidence e iff there is some sentence (or representation) which x understands and knows to express p in c that x would be justified in accepting in c on the basis of e.

The Descriptive Origin and Justification of *De Re* Belief (DOJB)

Let A be a certain class of agents (including us), C a certain class of circumstances, and P the class of singular propositions about individuals or kinds. For any member x of A, c of C, and p of P, (i) x believes p in c iff there is a descriptive proposition DP -- related, in c, to x and to p in a certain way -- which is such that x believes p in c by virtue of believing DP in c, and (ii) x would be justified in believing p in c on the basis of evidence e iff there is a descriptive proposition DP related, in c, to x and to p as in (i), and x would be justified in believing DP in c on the basis of e.<sup>10</sup>

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<sup>9</sup> Two illuminating sources of this amalgam of Fregean and Russellian ideas are, David Kaplan, “Quantifying In,” in D. Davidson and J. Hintikka, eds., Words and Objections, (Dordrecht: Reidel), 1969, and Nathan Salmon, “Three Perspectives on Quantifying In,” forthcoming.

<sup>10</sup> It is natural to take the relation between x, p, and DP in (i) to involve some sort of (perceptual, causal, or historical) acquaintance relation connecting x’s epistemic attitudes toward DP with the objects or kinds that are constituents of p.



We need not here try to determine the truth or falsity of either of these principles (for specified classes of agents, contexts and propositions). There are, however, two important points to notice. First, the reason they are *not* falsified by Pierre-type examples is that they allow an agent *x* to believe a singular proposition *p* by virtue of accepting a sentence *S*, or believing a descriptive proposition *DP*, of a certain type -- even if *x* fails to accept other sentences *S\**, or believe other descriptive propositions *DP\**, of the very same type (acceptance of, or belief in, which would also be sufficient for believing *p*). Thus, Pierre believes that London is pretty because he understands and accepts ‘Londres est jolie’, and believes that the city in the picture postcards is pretty, even though he understands but *doesn’t* accept ‘London is pretty’, and *doesn’t* believe that the city he lives in is pretty. The second point to notice is that the very feature of the principles renders them compatible with Pierre-type examples also renders them *incapable* of playing the roles of SDJ and SDOJ in Kripke’s second route to the necessary *aposteriori*. It does, of course, follow from MOJB and DOJB that any knowledge of the proposition *p* expressed by ‘Hesperus is Phosphorus’, that arises *solely* from understanding and accepting that very sentence, or believing that the heavenly body visible in the evening is the heavenly body visible in the morning, is justified by the empirical evidence needed for one’s accepting the sentence, or believing the descriptive proposition, to be justified. However, this is not enough to show that *p* is knowable *only* *aposteriori*. Unless it can be shown that belief in *p* can *never* arise from acceptance of some other sentence *S\** or from belief in some other descriptive proposition *DP\** -- the justification of which does *not* require empirical evidence -- the possibility that *p* is knowable *apriori* cannot be ruled out. Nothing in Kripke’s discussion does this.<sup>11</sup>

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<sup>11</sup> Kripke seems to show an implicit awareness of essentially this point in footnote 44 of “A Puzzle About Belief.”

Moreover, the prospect of achieving this result by supplementing Kripke's discussion is not promising. Suppose, for example, that Pierre is accompanied in his odyssey from Paris to London by a band of similar unfortunates who share his epistemic fate. One can easily imagine them learning a dialect of English in which the name 'Londres' is imported from French, and in which (15a) semantically expresses the same proposition as (15b).

15a. Londres is London

b. London is London

In this scenario, one way for Pierre to know the proposition *p* expressed by both sentences would be by understanding and justifiably accepting (15a), while knowing that the city in the picture postcards is the city he lives in. Another way of knowing the same thing would be by understanding and justifiably accepting (15b), while knowing that the city he lives in is the city he lives in. Although the first way of knowing *p* might properly be regarded as *aposteriori*, the second way of knowing *p* is *apriori*.<sup>12</sup> Thus, the proper answer to the question of whether *p* is an instance of the necessary *aposteriori* -- and the answer supported by MOJB and DOJB -- seems to be 'no', since although *p* is necessary, it is *possible* to know *p apriori*. Given the clear parallel between this example and the Hesperus/Phosphorus example, as well as other instances of (12a) and (13), we can accept neither Kripke's characterization of these examples, nor his second route to the necessary *aposteriori*.<sup>13</sup>

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<sup>12</sup> For purposes of simplicity, here and throughout, I ignore questions concerning the existential commitments of identity statements. Depending on which of this matter one takes, the necessary complications can easily be added.

<sup>13</sup> Example (15) is similar to a number of less artificial examples in the literature. One involves Nathan Salmon's character Sasha, who learns the words 'catsup' and 'ketchup' from independent ostensive definitions, in which bottles so-labeled are given to him to season his foods at different times. The words are, of course, synonymous, though no one ever tells Sasha that. As a result, he does not accept 'Catsup is ketchup' -- because he suspects that there may be some, to him indiscernible, difference between the things the two words refer to. Nevertheless he

## A Final Word about Strong Disquotation and Justification

Although the original principle, SDJ, cannot bear the weight placed on it by Kripke's second route to the necessary *a posteriori*, it does have intuitive appeal, and versions of it play a role in our belief-reporting practices. Thus, it is worth separating what is correct about it from what isn't. The key to doing this is, as I have argued elsewhere, to recognize that an utterance often results in the assertion and communication of more than the proposition semantically expressed by the sentence uttered.<sup>14</sup> For example, (14) might be used in a context in which musicians are being discussed to assert or communicate the proposition  $p_M$  -- *that the musician, Paderewski, had remarkable musical talent* – while being used in a context in which politicians are the topic of conversation to assert or communicate the proposition  $p_S$  -- *that the statesman, Paderewski, had remarkable musical talent*. The same is true of other attitudes. Sometimes Peter uses (14) to entertain  $p_M$ , and sometimes he uses it to entertain  $p_S$  (in addition to the bare proposition that simply attributes the property of having remarkable musical talent to Paderewski). This one-many

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understands both words. As Salmon emphasizes, nearly all of us learn one of the words ostensively, the order in which they are learned doesn't matter, and if either term may be learned ostensively, then someone like Sasha could learn both in that way. But then there will be synonymous sentences  $S_1$  and  $S_2$  which differ only in the substitution of one word for the other, which Sasha understands while being disposed to accept only one – just as with Pierre. Nathan Salmon, "A Millian Heir Rejects the Wages of *Sinn*," in C. A. Anderson and J. Owens, eds., Propositional Attitudes: The Role of Content in Logic, Language, and Mind (Stanford, CA.: CSLI) 1990. See also Kripke on 'furze' and 'gorse', p. 134 of "A Puzzle about Belief, and Stephen Rieber, "Understanding Synonyms without Knowing that they are Synonymous," Analysis 52 (1992), 224-28.

<sup>14</sup> See chapter 3 of Beyond Rigidity, "Naming and Asserting," in Z. Szabo, ed., Semantics vs. Pragmatics, (Oxford: Oxford University Press), 2004, "Beyond Rigidity, Reply to McKinsey," Canadian Journal of Philosophy, 35, 2005, 169-78, and "The Gap between Meaning and Assertion: Why what we literally say often differs from what our words literally mean" in Asserting, Meaning, and Implying, forthcoming,

relationship between sentences and propositions affects the application of SDJ. When we apply it to an agent like Peter who uses (14) first to entertain  $p_M$  and later to entertain  $p_S$ , no contradiction results from Peter's acceptance of (14) in the first case and rejection of it in the second -- provided we let  $p_M$  play the role of 'p' in the first case, and  $p_S$  play this role in the second. However, if we let the bare semantic content of (14) play the role of 'p' in both cases, we do get a contradiction. Hence, particular applications of SDJ can be either unproblematic, or clearly incorrect, depending on how, precisely, it is formulated, and whether or not contextual enrichment is involved.<sup>15</sup>

With this in mind, suppose we take Kripke's implicit reliance on SDJ in his discussion of (12b) to involve a modestly *enriched* proposition that speakers might naturally use that sentence to assert or entertain -- e.g., the proposition that the heavenly body, Hesperus, that is visible in the evening, is the heavenly body, Phosphorus, that is visible in the morning. *This proposition* is, of course, knowable only *aposteriori*, and the relevant application of SDJ is unproblematic. However, this way of taking the case does not advance Kripke's argument, since the *enriched* proposition is *not* necessary. If, on the other hand, we are asked to focus on the necessary proposition that (12b) *semantically* expresses, then we need a clear account -- which Kripke doesn't provide -- of precisely which proposition that is.

The semantic theory most in harmony with Kripke's thoroughgoing antidescriptivism -- contemporary Millian-Russellianism -- won't save his argument, since, according to it, the proposition semantically expressed by (12b) is the *apriori* proposition also expressed by (12e).

12e. Hesperus is Hesperus

On this theory, neither (12b) nor instances of (13) are examples of the necessary *aposteriori*. Of course, Millian-Russellianism cannot be attributed to Kripke. However, if it isn't, then it is

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<sup>15</sup> This idea is used to illuminate and resolve issues raised by Kripke's puzzle about belief in Mike McGlone, Assertion, Belief, and Semantic Content, (Unpublished Princeton Dissertation) -- from which my own views have profited.

mysterious what his positive view is. Being in the dark about this, we are in no position to accept either his argument for the necessary *aposteriority* of (12b), or his second route to the necessary *aposteriori*. Fortunately for us, and for the practice of philosophy in the post-Kripkean era, one sound route to the necessary *aposteriori* remains.<sup>16</sup>

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<sup>16</sup> Thanks to Ali Kazmi and Jeff Speaks for their useful comments on an earlier draft.