

Kripke's Category Error: Why There Are No Necessary A Posteriori Propositions

This appears in chapter 8 and appendix 3 of Peter Ulric Tse's "The Neural Basis of Free Will: Criterial Causation" (MIT Press, 2013).

The most serious attack on a descriptivist account of reference was Kripke's (1980) argument that reference arises only via a causal link between a proper name and the thing it refers to. He starts with an intuition showing, he argues, that descriptivism is incorrect: If a famous person had died as a baby, all the descriptions that defined his or her fame as an adult would not apply to the baby; but we would nonetheless want to consider him or her the same person regardless of our descriptions. Kripke argues that a proper name (e.g., "Alexander the Great") is therefore a "rigid designator," which means that it refers to the named person or thing in every possible (i.e., conceivable, but not necessarily actually existing) world in which it "exists." In contrast, most descriptions (e.g., "the leader who defeated Darius III and conquered Persia") are not rigid in that they can refer to different referents in different possible worlds. For example, in another possible world, Alexander's father is the one to have defeated Darius III and conquered Persia. A criterialist would say that the criterion "defeated Darius III" would be satisfied only by the mental representation of the adult Alexander, and not by the representation of the baby, and that criterial satisfaction need not depend in any necessary way on Alexander the Great's ever having even existed. That criterion could be satisfied in the context of a comic book by the story's hero. In the real world, it is satisfied by Alexander the Great.

Let us define some needed philosophical terms. A necessarily true proposition is conventionally defined as a proposition that could not have been false. A contingently true proposition is defined as one that is true but might have been false. A priori knowledge is true by definition and does not require experience to prove it, whereas a posteriori knowledge can only be gained via experience or empirical evidence. Kripke's argument against a descriptivist account of reference and his claim that there are necessary a posteriori truths results from a category error that arises because of an ambiguity within the symbolism of modal logic that carries over from the ambiguity of ordinary languages from which that symbolism derives. The nature of the category error was first pointed out by Quine (1943, 1960, 1961, 1966). He noted that the central expressions in modal logic are "necessarily" and "possibly," and that modal logic uses these expressions in a referentially opaque manner, undermining their ability to derive true statements. As an example he gives: (1) The number of planets = 9; (2) necessarily ($9 > 7$); substituting from (1) into (2) yields (3) necessarily (the number of the planets > 7). This false conclusion occurs because substitution is allowed only in cases where reference is direct (Frege's term was 'gerade'), as when different names refer to the same thing in the world. Substitution is not allowed when reference is opaque (ungerade), as occurs, for example, when terms refer to others' mental states, including what they may believe or know.

Stalnaker (1976, 2004) and Chalmers (1996, ch. 2, section 4; 2002, 2005, 2006; but see Soames, 2007, for a defense of Kripke) have recently argued against Kripke in the spirit of Quine's "argument from propositional ambiguity," and pushed for a revival of descriptivism. According to their "two-dimensional semantic analysis," a sentence like

“water is H₂O” expresses two propositions: The primary intension of “water” might be a set of descriptions that water meets (e.g., clear, drinkable, freezes at zero degrees); the secondary intension of water is whatever it is in this world that satisfies these descriptions. Since H₂O satisfies these descriptions in our world, “water” in this second sense must refer to H₂O in all possible worlds, because H₂O is H₂O in all worlds. The primary intension is a posteriori (and not necessary, since it is only contingently the case that “water” picks out H₂O in our world), and the second intension is necessary (and not a posteriori, because a thing, like H₂O, is necessarily identical to itself in all possible worlds). Kripke only concluded that there are necessary a posteriori propositions because a single sentence can frame two propositions at the same time.

I will continue Quine’s, Stalnaker’s, and Chalmers’s line of attack using the “argument from propositional ambiguity.” While related, my argument is that a single sentence can frame a proposition about a thing-in-itself and also frame a proposition about a mental construct of that thing. To make this clear, two things can be mentally identical or not, or noumenally (actually) identical or not. This gives rise to a 2×2 with four cells. An example of “mentally identical and actually identical” would be the morning star and evening star after it was discovered and mentally modeled that both are in fact Venus. An example of “mentally different but actually identical” would be the same, but before this discovery, where the two stars were thought to be different stars, but were in fact both Venus. An example of “mentally the same and actually different” would be two species that we mistakenly think are one species, such as bonobos and chimpanzees were initially thought to be, but which in fact are different species. An example of “mentally different and actually different” would be how we think about these two separate species today.

On a criterialist account, necessary a posteriori truths are not allowed. Like ordinary English, the symbolism of modal logic makes no distinction between propositions about (1) reality-in-itself (i.e., the “noumenal” world, independent of any perceptions of it) and (2) a perceiver’s perceptual and cognitive maps or models of reality-in-itself derived from “phenomenal” experience and the preconditions of that experience. (It is understandable that these two types of propositions are conflated, because we cannot in fact formulate verifiably true propositions about reality-in-itself, because arguably we have no direct access to it (Kant, 1998 [1781]); we only have (2), our perceptual and cognitive maps of it. Nonetheless, we commonly form propositions about things that we cannot access or experience, whether other people’s experiences or the noumenal world, by inferring what must be the case given our experience). . In ordinary human languages, no distinction is made between propositions of type (1) and (2). If I say “I see a child” or “A child is standing right over there” I mean both (1) that there is a child out there in the world independent of my perception of it, and (2) I have a mental/perceptual model that there is a child out there.

Kripke’s usage of modal logic similarly conflates propositions of types (1) and (2). Kripke’s favorite examples of necessary a posteriori truths are “water is H₂O” and “Hesperus (the morning star) is identical with Phosphorus (the evening star).” Using this second example, at some point it was empirically discovered that both stars were in fact the planet Venus.

Although they were once thought to be two stars, they were discovered to be in fact one and the same thing. It is essential to realize that “Hesperus is identical with Phosphorus” can frame two distinct propositions, one of type (1) and one of type (2). These are: (1) The noumenal thing-in-itself labeled “Hesperus” is identical in reality-in-itself with the thing-in-itself labeled by “Phosphorus” and (2) the mental model of the thing-in-itself labeled “Hesperus” and the mental model of the thing-in-itself labeled “Phosphorus” are identical mental models. However, that my mental models should be such that the morning and evening star are both modeled as Venus followed the empirical discovery that they were both Venus. The type (2) proposition here must be contingent. However, the above type (1) proposition is necessary if it is true, because a thing-in-itself is necessarily identical with itself, even if it is given two different names. It is only because of the ambiguity introduced by the fact that a single sentence can frame two different propositions, one necessary (1) and the other a posteriori (2), that one reaches the mistaken conclusion that there can be necessary a posteriori truths. However, we must consider the two different propositions (1) and (2) separately. A given proposition is either necessary and a priori or contingent and a posteriori. It cannot be both. The end result of Stalnaker’s, Chalmers’s, or my argument ends the same way, however: against Kripke and in support of descriptivism. Those interested in reading a formal version of the “argument from propositional ambiguity” in terms of modal logic can find one below:

The modal logical proof forming the backbone of the argument that led Kripke (1980) to claim the existence of necessary a posteriori propositions can be rewritten in a way that disambiguates the ambiguity between propositions of type (1) and (2).

The original proof, due to Barcan (1946), has four steps, {A}–{D}:

{A} $(x)(y)[(x=y) \supset (Px \supset Py)]$ (read: For any objects x and y such that x is identical with y, if x has a given property P, y also has this property);

{B} $(x)\Box(x=x)$ (read: For any object x, x is necessarily identical with x);

{C} $(x)(y)(x=y) \supset [\Box(x=x) \supset \Box(x=y)]$ (read: For any objects x and y such that x is identical with y, letting P be the property of being necessarily identical with x, we see, applying {A}, that if x has this property, y has it too; According to {B}, however, x has the property of necessarily being identical to x);

{D} $(x)(y)((x=y) \supset \Box(x=y))$ (read: Therefore, for any objects x and y such that x is identical with y, y is necessarily identical with x).

However, if the second equal sign in {D} is taken to stand for an identity between (type 2) mental models of things-in-themselves and the first equal sign in {D} is taken to stand for an identity between (type 1) things-in-themselves in reality-in-itself, we will be violating the rules of logic, because the equal signs stand for different equalities. From such a confusion, we can draw no true conclusions. It is precisely this mistake, due to an ambiguity in the formalism inherited from ordinary language, that led Kripke to the wrong

conclusion that there are necessary a posteriori truths. To make this point more explicitly, let the subscript 1 mean that we are talking about things-in-themselves. On this account “ x_1 ” means thing-in-itself x_1 and “ $=_1$ ” means “identical in reality in-itself” or “noumenally identical.” Let subscript 2 mean that we are talking about mental models or percepts of things-in-themselves. Then “ x_2 ” means mental model x_2 or experience x_2 , and “ $=_2$ ” means “identical in the mind” or “phenomenally identical.” Substituting propositional type (1) into the Barcan proof, we end up with:

{D1} $(x_1)(y_1)((x_1=_1y_1) \supset \square(x_1=_1y_1))$ (read: For any things-in-themselves x_1 and y_1 , such that x_1 is noumenally identical with y_1 , y_1 is necessarily noumenally identical with x_1 ; In other words, a thing-in-itself is, not surprisingly, necessarily identical with itself).

Substituting propositional type (2) into the Barcan proof, we end up with:

{D2} $(x_2)(y_2)((x_2=_2y_2) \supset \square(x_2=_2y_2))$ (read: For any mental models or experiences x_2 and y_2 , such that x_2 is identical with y_2 in someone’s mind, y_2 is necessarily identical with x_2 in that mind; In other words, a mental model or experience is, not surprisingly, necessarily identical with itself).

How then did Kripke reach the astounding result that an identity of two mental models, which everyone grants is an a posteriori identification, is also a necessary identity if it is true? He did so by conflating propositions of type (1) and (2). There is, to my knowledge, no logical way to prove:

{D3} $(x_1)(y_1)(x_2)(y_2) ((x_1=_1y_1) \supset \square(x_2=_2y_2))$ (read: For any things-in-themselves x_1 and y_1 and mental constructs x_2 and y_2 such that x_1 is noumenally identical in reality-in-itself with y_1 , it is necessary that the mental construct x_2 is phenomenally identical with the mental construct y_2).

That people once thought the morning star and evening star were different shows that {D3} is wrong.

And to my knowledge there is also no logical way to prove:

{D4} $(x_1)(y_1)(x_2)(y_2) ((x_2=_2y_2) \supset \square(x_1=_1y_1))$ (read: For any things-in-themselves x_1 and y_1 and mental constructs x_2 and y_2 such that x_2 is mentally identical with y_2 , it is necessary that the thing-in-itself x_1 is noumenally identical with the thing-in-itself y_1).

{D4} is what Kripke claimed, and it is false, and follows from the Barcan proof only because of a category error between propositions of type (1) and (2).

Kripke claimed, on the basis of this interpretation of the Barcan proof, that if the identification of the thing-in-itself called “a mental state” with the thing-in-itself called “a brain state” is a true identification, it is necessarily true. And since, he argues, mind–brain identity theorists admit that this identity is contingent—which, on his account, it cannot be—the identity is not true at all, but false (cf. similar arguments by Chalmers, 1996, pp.

146–149). Since, however, Kripke's criticism of identity theory rests on a conflation of propositional categories that should be kept distinct, his argument does not in fact rule out mind–brain identity theories.

References

- Barcan (Marcus), R. C. (1946). A functional calculus of first order based on strict implication. *Journal of Symbolic Logic*, 11, 1–16.
- Chalmers, D. (1996). *The conscious mind*. Oxford: Oxford University Press.
- Chalmers, D. (2002). On sense and intension. *Philosophical Perspectives*, 16, 135–182.
- Chalmers, D. (2005). Two-dimensional semantics. In E. Lepore & B. Smith (Eds.), *The Oxford handbook of philosophy of language*. Oxford: Oxford University Press.
- Chalmers, D. (2006). Foundations of two-dimensional semantics. In M. Garcia-Carpintero & J. Macià (Eds.), *Two-dimensional semantics: Foundations and applications* (pp. 55–140) Oxford: Oxford University Press.
- Kant, I. (1998 [1781]). *Critique of pure reason*. P. Guyer & A. W. Wood (Eds.). Cambridge: Cambridge University Press.
- Kripke, S. (1980). *Naming and necessity*. Cambridge, MA: Harvard University Press.
- Quine, W. V. (1943). Notes on existence and necessity. *Journal of Philosophy*, 60, 113–127.
- Quine, W. V. (1960). *Word and object*. Cambridge, MA: MIT Press.
- Quine, W. V. (1961). Reference and modality. In his *From a logical point of view* (pp. 139–157). Cambridge, MA: Harvard University Press.
- Quine, W. V. (1966). Three grades of modal involvement. In his *The ways of paradox* (pp. 158–176).
- Stalnaker, R. (1976). *Propositions: Issues in the philosophy of language*. New Haven: Yale University Press.
- Stalnaker, R. (2004). Assertion revisited: On the interpretation of two-dimensional modal semantics. *Philosophical Studies*, 118, 299–322.