

# Transworld identity as a problem for essentialism about kinds.

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## 1. Introduction.

On the face of it, there are two types of essentialism. We may say that such and such is essential to a kind, and we may say that such and such is essential to an individual. Thus, supposing that Travis is in fact a bachelor, being unmarried is presumably not essential to him, though unmarriedness seems to be essential to the kind BACHELOR<sup>1</sup>. *Qua bachelors*, bachelors are essentially unmarried; Travis himself is not.

But does it make sense to attribute essential properties to an individual in itself, not considered as something of this or that kind? A negative answer might have always been in the air; in print, one may think particularly of Quine and Locke.<sup>2</sup> It is partly against this background that Kripke's discussions of essential properties of individuals in the early 1970s was considered revolutionary.

My thesis is that the more traditional type of essentialism (about kinds) suffers from a difficulty concerning transworld identity to which the more revolutionary essentialism (about

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<sup>1</sup> Surely a most *unnatural* kind. I chose it so that I can present one case of a property indisputably essential to a kind. I presume the received view—perhaps originated with Putnam (1970)—that only very few kind terms have analytical definitions, and will argue that ascription of essential properties is problematic for the rest.

<sup>2</sup> For Quine's example of cyclist mathematicians, see (1960: 199). For Locke's view that it is only to "Sorts" that one may significantly attribute nominal or real essences, see *Essay* III.vi.4f.

individuals) seems to be immune. I will have space only enough to expose *the problem*; whether or not it can be reasonably solved is a separate issue, and my own pessimistic analysis can only be outlined here.<sup>3</sup> However, given that the problem seems to be previously unnoticed as such, I will consider this article a success if I manage to convince you that there is a nontrivial transworld identity problem for kinds, a problem which cannot be trivialized or easily dissolved in the way that Kripke treats the transworld identity problem for objects<sup>4</sup>.

## 2. Transworld identity: individuals vs kinds.

Let us explicitly define the two notions of essentiality.<sup>5</sup>

**Definition 1.** A property is **essential** to an object iff that object has it in every possible world wherein the object exists.

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<sup>3</sup> For a more detailed account, see my doctoral dissertation, available online at

[https://tspace.library.utoronto.ca/bitstream/1807/16814/1/Lajevardi\\_Kaveh\\_200811\\_PhD\\_thesis.pdf](https://tspace.library.utoronto.ca/bitstream/1807/16814/1/Lajevardi_Kaveh_200811_PhD_thesis.pdf)

<sup>4</sup> I use 'object' and 'individual' interchangeably. Defining what is exactly meant by these terms is not easy; but, at any rate, I think the difference between *the water in this glass* and *the kind WATER* is intuitively clear. Also, I am aware that while talking about (say) the water in a given glass, it sounds rather awkward to refer to the water as an 'object' or 'individual'; but let it pass.

<sup>5</sup> My task here is not analyzing the notion of essence; rather, it is whether one can meaningfully talk about individuals and kinds having some of their properties *necessarily* (see the official definitions in the text); so that Fine's (1994) criticism of characterizing essence in modal terms need not bother us.

Until recently, it was customary to use 'essentially' synonymously with 'necessarily'. For sake of brevity, I omit a long list of quotational evidence and keep just one from Kripke (1980: 135): "though each of these items is, indeed, essentially (necessarily) gold, gold might have existed even if the items did not". I stick with the old terminology.

**Definition 2.** A property  $P$  is **essential** to a kind  $K$  iff for every possible world  $W$  and for every object  $b$ , if  $b$  does not have  $P$  in  $W$  then  $b$  is not a  $K$  in  $W$ .<sup>6</sup>

While many philosophers, even some of those of an empiricist persuasion, could tolerate the attribution of essential properties to kinds, ascribing necessary properties to individuals used to raise eyebrows. Whereas attributing essential properties to kinds is to make de dicto modal statements, the attribution of essential properties to individuals clearly involves modality de re. And modality de re has been thought to be marred by difficulties far more serious than those affecting modality de dicto. Here I am concerned with one such difficulty as a preamble to my own problem with essentialism about kinds.

Prior to the immense influence of Kripke (1971, 1980), one might have suspected that the very notion of a necessary or contingent property of *an object per se* is problematic or even outright incoherent unless it comes with a solution to the problem of transworld identity for objects: “If you want to investigate whether having green eyes is essential to Travis,” the sceptic might have said, “you must first identify Travis in other possible worlds: only afterwards you may be able to examine the colour of *Travis’s* eyes in those worlds. And it is not clear how one could, even in principle, do this—among the individuals in a given possible world, it is not clear which one is Travis”. The problem is metaphysical, not epistemological: the sceptic is asking what Travis *is* in another possible world, not just how to *tell* what Travis

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<sup>6</sup> Definition 1 is explicitly given by Kripke (1971: 151f), together with an extensionally equivalent one.

Definition 2, though not explicit in Kripke, is unambiguously suggested by his examples of essential properties of GOLD and CAT (1980: 124, 126). I will keep exegesis at a very minimal level in this article.

Following Kripke (1980: 21n21), I shall not touch the issue of the necessary existence of every actually existing object, which is a consequence of this raw form of Definition 1.

is there.<sup>7</sup>

To see how significant the transworld identity problem was supposed to be, it suffices to recall that at least one prominent living philosopher of the ante-Kripkean era once considered it as the main problem in modal logic—here is David Kaplan of the late sixties (1979: 94, my square brackets):

this [the transworld identification problem] is the central problem of philosophical interest in the development of intensional logic. The other problems are all technical.

Now, Kripke famously argues (1980: 43-47, 1971: 146-149) that there is no genuine problem of transworld identity for individuals. Talking about a possible world wherein Nixon loses the 1968 elections, Kripke informs us that it is part of the very description of that world that *Nixon* loses the elections there. Possible worlds, in Kripkean understanding of them, need not be described purely qualitatively; rather, in talking about such a possible world, it is *given* that we are talking about Nixon; we simply stipulate that we are talking about him, about *Nixon himself*, and that *he* loses the elections there.<sup>8</sup> “Possible worlds’ are *stipulated*, not *discovered* by powerful telescopes” (1980: 44).

To make myself clearer, let me say what I mean by the transworld identity problem for individuals, in juxtaposition with the corresponding problem for kinds.

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<sup>7</sup> There is a tight connexion between the transworld identity problem and de re scepticism: Fine (1978) demonstrates that a formula is kosher in view of the de re sceptic (i.e., it has a provably de dicto equivalent) if and only if the determination of its truth-value does not require a solution to the relevant transworld identity problem.

<sup>8</sup> Pardon my excessive use of italics. See 3.3. below in the text.

**Transworld identity (TI) problem for individuals.** Let each of  $a$  and  $b$  be an individual, and let  $a$  and  $b$  inhabit different possible worlds. Under what conditions are  $a$  and  $b$  one and the same individual?

**TI problem for kinds.** Let  $a$  and  $b$  be individuals in different possible worlds. What is it for  $a$  and  $b$  to be of the same kind  $K$ ?

In practice, specially in case of TI for kinds, one of the possible worlds in question is the actual world.<sup>9</sup>

You might wonder if the second one is a misname. I think it is not. Kripke's argument for the essentiality of animalhood for the kind CAT goes like this:<sup>10</sup> he considers a counterfactual situation with some non-animals, say a number of little cat-like demons, and asks whether *they* are cats. There are two possible worlds—the actual one and the one just described—and the question is whether some things there and some things here are of the same kind, CAT. What matters is whether the individuals thus considered in different worlds belong to the extension of the same kind-term in those worlds as *we*, in the actual world, use that term. Or he asks if, in the way we use 'gold', shiny non-metal things in a possible world are gold.

Now Kripke adduces examples like *Nixon's* losing the elections to argue that the TI problem for individuals need not bother us at all. I think the way Kripke deals with the issue of TI for individuals has its roots in the way we do the possible-worlds semantics for modal logic. (And I take him to be arguing that this is the way we *should* talk about possible worlds.) If so, no wonder that Kripke—one of the founding fathers of this semantics—favours this approach. I will briefly explain how the possible-worlds semantics turns the TI question for

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<sup>9</sup> This may be explained by the main thesis of Adams (1981).

<sup>10</sup> See, again, Kripke (1980: 124, 126) for the case of gold and cats.

individuals into a pseudo-problem, and then argue that there is a problem with transworld identity of kinds, as opposed to objects, when looked at through the lens of this semantics.

The following catechism may illustrate the stark difference between the two.

**Q.** What is it for the individual  $a$  to be an  $F$  in a possible world  $W$ ? More precisely, what is it for the formula ' $Fx$ ' to be true in  $W$  when the value  $a$  is assigned to the free variable ' $x$ '?

**A.** The truth-value in question is T just in case  $a$  lies within the extension of  $F$  in  $W$ .<sup>11</sup>

**Q.** What is  $F$  in  $W$ ?

**A.** It should be given at the outset. In fact,  $W$  is not specified *as a possible world* unless the extension of  $F$  in it is specified.

**Q.** What is  $a$  in  $W$ ?

**A.** It is just  $a$ .

In the standard semantics, in order to say what it is for  $a$  to be an  $F$  in  $W$ , there is no question at all about  $a$ : it is a matter of  $a$  *itself* lying in the extension of  $F$  in  $W$ . The individual  $a$  is the same in every possible world wherein it exists. The name of an individual, if it has a name, is a rigid designator. (The same is the case for free variables: as Kripke (1980: 49n16) says, "free variables can be used as rigid designators of unspecified objects". In fact, as Kaplan says, variables are "paradigms of rigid designation" (1989: 493); so it really does not matter whether or not we have a name for the individual in question.) This, I submit, is a fundamental presumption of our standard model theory for modal logic.<sup>12</sup>

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<sup>11</sup> Here we need not be concerned about accessibility relation between possible worlds—*vide* Kripke (1963).

<sup>12</sup> The relationship between rigidity and the standard semantics has also been observed by Stanley: "rigidity

On the contrary, the meaningfulness of the question of an individual  $a$  being an  $F$  in  $W$  requires a determinate answer to this question: What is the extension of  $F$  in  $W$ ? The question of TI does arise for  $F$ . When talking about *this object*, Nixon, in other possible worlds, there is no problem about the thing we are talking about (and ‘Nixon’, as used by us, designates the same object, if any, in every possible world). But if we want to talk about cats being such and such in a possible world  $W$ , we *have to* specify the extension of the predicate ‘is a cat’ in  $W$ , and the extension may well differ from world to world. So there is an asymmetry between the case of individuals (referents of proper names) and kinds (referents of kind terms, or referents of some predicates); the TI problem for the latter does make sense, and solving it is a prerequisite for talking about  $K$ s in other possible worlds.

Admittedly, one might argue that *some* essentialist claims about kinds are unproblematic with respect to the transworld identity problem, due to the logical form of the statements themselves. Thus one might say that being liquid-or-non-liquid is essential to the kind WATER since no matter how we solve the TI problem for water (and for liquid), in every possible world each instance of water is either liquid or non-liquid. But, of course, this is not a typical essentialist claim—after all, insofar as it has a truth-value, the statement that water is necessarily liquid-or-non-liquid is knowable a priori. Thus if not all, at least every “interesting”, a posteriori essentialist claim about kinds requires a solution to the relevant TI problem.

This, then, is the difficulty I see in attributing essential properties to kinds: before investigating whether such and such is necessary for a given kind  $K$ , we have to know what the extension of  $K$  is in a non-actual possible world—we have to identify instances of  $K$  in other possible worlds. Because of the way we deal with individuals across possible worlds,

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arose in the development of the semantics of Quantified Modal Logic” (1997: 558).

the problem does not arise when we want to attribute an essential property to an individual—or, rather, it has a trivial answer.<sup>13</sup> Not so in the case of kinds.

### 3. Any solutions?

Let me discuss, in a very programmatic manner, what might be said against some ideas for a solution. This should be considered as something like an extended abstract of a long, book-length essay; I just want to present the headings here.

**3.1. The same old universal.** One may entertain answering the question about the transworld identity of a kind, say GOLD, by simply saying that for every possible world and every object in it, the object is gold iff it instantiates the same universal, GOLD. Arguably, something along this line of thought can be seen in Donnellan's (1983) attempt to define rigidity for kind terms.

I hope I will be excused for being rather short with this approach here. One may argue that reducing the TI for kinds to the TI for universals is just a re-labeling of the problem. (The other suggestions considered below do not have this defect.) But, perhaps more relevantly, I think the suggested idea is not *Kripkean* at all. It seems to me that, insofar as Kripke touches the issue of the TI for gold and cats, he has another criterion in mind, namely,

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<sup>13</sup> Kripke's trivializing solution to the TI problem for individuals can be seen as an endorsement of some version of haecceitism—see Salmon (1996: 204). Ignoring a number of niceties, one may regard this as the doctrine that the facts concerning an individual across possible worlds are “primitive”. What makes the TI problem for kinds more pressing is that the corresponding doctrine for properties, known as *quidditism*, is not remotely as plausible as haecceitism—see Black (2000). Here I do not directly rely on arguments against quidditism: I just want to draw attentions to the fact that while there is a ready and standard way of trivializing the TI problem for individuals, no such thing is at hand in the case of kinds or properties.

**3.2. "That kind of thing".** One may think of defining extensions of kinds across possible worlds by means of suitable equivalence relations of sameness of kind. (Think of the classic Fregean way of defining the direction of a line by means of the relation 'x is parallel to y'.) An in-detail way of doing this is presented in Putnam (1975). Suppose we had previously pointed to a glass and said, as a matter of ostensive definition, '*this* is water'. Then, according to Putnam (1975: 231), the relation  $\text{same}_L$  (same liquid as) gives us the extension of water in every possible world:

(For every world  $W$ ) (For every  $x$  in  $W$ ) ( $x$  is water  $\equiv$   $x$  bears  $\text{same}_L$  to the entity referred to as '*this*' in the actual world  $W_1$ ),

where " $x$  bears the relation  $\text{same}_L$  to  $y$  just in case (1)  $x$  and  $y$  are both liquids, and (2)  $x$  and  $y$  agree in important physical properties" (1975: 328f), and this is followed by an elaboration of what physical properties are to be considered as important. It seems that at places in *Naming and Necessity* something like this idea is at work.<sup>14</sup>

What can be said about this solution? Well, a lot *has been said* about this by its former champion, Hilary Putnam. In a not much cited paper, Putnam (1990: 70) concludes his lengthy argument by saying

I now think that the question, "What is the necessary and sufficient condition for being water in all possible worlds?" makes no sense at all. And this means that I now reject "metaphysical necessity."

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<sup>14</sup> See Kripke (1980: 119) on gold, and the example of polywater in (1980: 129). I took the title of this subsection from Kripke (1980: 122): "The original concept of a cat is: *that kind of thing*, where the kind can be identified by paradigmatic instances." Some exegetical work, which I omit from this article, would show differences between Kripke and Putnam here.

In a fuller presentation of my view, I would examine Putnam's argument and make comments here and there;<sup>15</sup> but I am in agreement with this much: Putnam's argument shows that the that-kind-of-thing solution to the TI problem for kinds does not help the essentialist to make sense of his essentialism—very briefly, Putnam's line of argument (or my reading thereof) is that importance is interest-relative, while metaphysical necessity is allegedly not.

Given that Putnam's conclusion in the latter work is the rejection of metaphysical necessity altogether, it seems safe to infer that Putnam considers this suggestion as *the only* candidate for a solution to the TI problem for kinds. But we may think of another, more Kripkean, idea:

### 3.3. Stipulation.

There are certain passages in Kripke suggesting that the TI problem for properties can be solved stipulatively, in a way that is even more trivial than the case of individuals. Here is one (1971: 148):

And there seems to be no less objection to *stipulating* that we are speaking of certain *people* than there can be objection to stipulating that we are speaking of certain *qualities*. Advocates of the other view take speaking of certain qualities as unobjectionable. They do not say, "How do we know that this quality (in another possible world) is that of redness?"<sup>16</sup>

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<sup>15</sup> Putnam says that the transworld identity problem for kinds (not so labelled by Putnam himself), cannot be put in a way that Kripkean essentialists themselves would recognize it (1990: 57, 63ff). It is my hope that my reader now thinks I have done just that in this article.

<sup>16</sup> Cf. Kripke (1980: 52f), where he discusses a counterfactual talk about a table being painted green: "I have stipulated that I am talking about greenness."

Now for every natural kind  $K$  we may consider the property of *being an instance of  $K$* , and it would seem plausible to say that, for Kripke, there is no real problem about the TI for natural kinds either. It seems that in Kripke's view, the TI problem for kinds is only a pseudo-problem—perhaps even more of a pseudo-problem than the TI for individuals.

There are a number of important unanswered questions here, though. What is it to stipulate something in a possible-worlds discussion? How and why does stipulation work? For what types of questions is stipulation permissible? I think even in the case of the TI problem for individuals we need to hear more about stipulation. When Kripke vehemently argues that there is an obvious stipulative answer to the TI problem for objects (e.g. for Nixon, (1980: 44ff)), occasionally methinks that much of the argumentative work is done by means of italics and emphatic phrases like '*he himself*'—we are not really told what stipulation is.

So I do not think that we are well informed about stipulation to receive the stipulative move as a complete solution to the TI problem. But I also think that there is an argument against the stipulative idea for natural kinds. Here is a concise presentation of its main steps:

$\alpha$ . Stipulation about properties requires some sort of primitiveness about properties.

[The justification of this requires philosophizing about the very notion of stipulation; key ideas are borrowed from Salmon (1996) and especially Adams (1979).]

$\beta$ . The identities of real properties are non-primitive in the relevant sense.

[I would argue that real properties—but perhaps not gruesome ones—are individuated by their nomic profiles (following Shoemaker (1980, 1998)); hence their identities are not primitive in the sense required by ( $\alpha$ ).]

$\gamma$ . For each natural kind  $K$ , the property of *being an instance of  $K$*  is subject to ( $\beta$ ).

$\therefore$  Stipulation about natural kinds is illegitimate.

## 4. Concluding remarks.

I close with a number of clarificatory remarks.

**4.1. Kinds as individuals?** Perhaps kind terms are really proper names for some complex individuals? No. One *may* think of this for biological species, but I am not sure if it makes much sense for, say, the kind GOLD. More relevantly, it seems that considering kind terms as predicates—and not as singular terms—is the default position, or at least so it was in 1970, when Kripke delivered his lectures on naming and necessity. Had Kripke thought otherwise he would have commented on the issue. In fact, he says (1980: 127, my italics) “The old term ‘common name’ is thus quite appropriate for *predicates* marking out species or natural kinds, such as ‘cow’ or ‘tiger’.”

**4.2. I am not concerned about rigidity of general terms.** As is well known, Kripke defines rigidity for singular terms only, and it is not clear how the definition should be extended to general terms. This may cause some troubles for Kripkean essentialism as advocated in Lecture III of Kripke (1980), where the supposed rigidity of some kind terms is thought to play a rôle. However, the notion of rigidity of general terms is not what I find most worrisome in essentialism about kinds. My apprehension is more fundamental: prior to examining a claim to the effect that a kind is necessarily such and such, I need to know what it is *for instances of that kind* to be such and such in a possible world. As we use the term ‘water’, what is in its extension in non-actual possible worlds? I think it is only after answering this question that one can move on and talk about the rigidity of ‘water’ or defend an essentialist claim about water.

My main question, again, is the transworld identity problem for kinds, here posed for the

kind water: What is it for an object in a non-actual possible world to be of the kind water in that world? One should keep in mind that to satisfy a Kripkean essentialist, the answer should be such that the proposition expressed by 'Water is H<sub>2</sub>O' turns out to be necessary *a posteriori*. Thus in this context one cannot blithely say that by 'water' one just *means* H<sub>2</sub>O.

In fairness to Kripke, it should be mentioned that although he does say that, e.g., the general term 'gold' is rigid (1980: 136), in his argument for the essentialist claim concerning gold he does *not* appeal to the alleged rigidity of 'gold': he never uses 'rigid' there (1980: 123ff).<sup>17</sup> So perhaps Kripke really need not define rigidity for general terms in order to defend his essentialism about natural *kinds*. On the contrary, in his arguments for the necessity of true statements of identity of natural *phenomena* he heavily appeals to rigidity claims, as is manifest in case of pain in his argument against the mind-body identity theory (1980: 148f). So perhaps the lack of a clear definition of rigidity for general terms does not threaten Kripke's essentialism about kinds like gold and water; what does pose a threat to Kripkean natural-kind essentialism is the transworld identity problem for such kinds, if I am right.<sup>18</sup>

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<sup>17</sup> See also the case of cats being animals in (1980: 122, 125f); again, in the course of his argument, Kripke does not talk about the rigidity of 'cat'.

<sup>18</sup> To narrow down my discussion, in this article I have not talked about natural phenomena (like heat) and their names. There might be deeper reasons for considering natural-kind terms and natural-phenomenon terms separately: Gray (2006) suggests the semantics of the two are different.

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