§ On Identity

Q: Are statements of identity necessary or contingent?

[A] Identities between descriptions are contingent identity

The man who invented bifocals = the first Postmaster General of the United States

[B] Theoretical identifications are necessary identity

| light  | stream of photons |
| heat   | motion of molecules |
| sound  | a certain sort of wave disturbance in the air |
| water  | a compound of hydrogen and oxygen |

* pain = a certain material state of the brain, say, the stimulation of C-fibers

Q: Is this identity contingent?

[C] Identities between Names

Example: Hesperus is Phosphorus.

___ Q: Are there any circumstance under which Hesperus wouldn’t have been Phosphorus?

___ Kripke: No. Names are rigid designators. They refer to the same object in every possible world.

(1) Supposing that someone goes by and he calls two different stars “Hesperus” and “phosphorus.”

___ Kripke’s analysis: He can’t have pointed to Venus twice, and in the one case called it “Hesperus” and in the other “Phosphorus,” as we did. If he did so, then “Hesperus is Phosphorus” would have been true in that situation too. He pointed maybe neither time to the planet Venus -- at least one time he didn’t point to the planet Venus, let’s say when he pointed to the body he called “Phosphorus.” Then in that case we can certainly say that the name “phosphorus” might not have referred to Phosphorus.

(2) In the very position when viewed in the morning that we found Phosphorus, it might have been the case that Phosphorus was not there -- that something else was
there, and that even, under certain circumstances it would have been called “Phosphorus.”

**Kripke’s analysis:** But that still is not a case in which Phosphorus was not Hesperus. [He’d probably say that the name “Phosphorus” does not refer to our Phosphorus in that situation.]

(3) There might be a possible world in which, “Hesperus” and “Phosphorus” weren’t names of the things they in fact are names of. It *could have turned out* that Hesperus was not Phosphorus; that is, in a counterfactual world in which “Hesperus” and “Phosphorus” were not used in the way that we use them, as names of this planet, but as names of some other objects, one could have had qualitatively identical evidence and concluded that “Hesperus” and “Phosphorus” named two different objects.

**Kripke’s analysis:** But still that’s not a case in which Hesperus wasn’t Phosphorus. For there couldn’t have been such a case, given that Hesperus is Phosphorus.... At least one of these stars or heavenly bodies was not Phosphorus, otherwise it couldn’t have come out that way.

**Question:** Aren’t there really two possible worlds -- one in which Hesperus was Phosphorus, the other in which Hesperus wasn’t Phosphorus -- in advance of our discovering that these were the same?

**Answer:** First, there’s one sense in which things might turn out either way, in which it’s clear that doesn’t imply that the way it finally turns out isn’t necessary.... It might turn out either way. It still doesn’t mean that the way it turns out is not necessary. *Obviously, the ‘might’ here is purely ‘epistemic’ -- it merely expresses our present state of ignorance, or uncertainty.* → Chalmers’ Epistemic Possibility

|Conclusion|:

* Hesperus = Phosphorus
  __ not a priori
  __ but necessarily true (if it’s indeed true)

* Identity should just be taken to be the relation between a thing and itself, not as a relation (co-designation) between two names.

§ On Essential Properties

**Q:** Could the Queen have been born of different parents? Could the Queen not have been of royal blood? Could the Queen have always been a swan? Could the Queen, the thing we thought to be a woman, have in fact been an angel in human form? ....

**Kripke’s Conditions on essential properties:**

1. *Origin determines identity of an individual* (e.g. the Queen could not have been born of different parents)*
(2) Substance determines identity of a thing (e.g. *this* table could not have been made of ice)

(3) *Internal structure* (not superficial identifying properties) determines identity of a kind (natural kind) (e.g. the seeming tigers which are actually reptiles do not belong to the species of tigers.)

**Q:** Are the following statements necessary?

1. Cats are animals.
   ___ Suppose that cats in our world turn out to be robot-cats. Are they *cats*?
   [Kripke replies: The inclination is to say, not that there turned out to be no cats, but that cats have turned out not to be animals as we originally supposed.] But given that cats are in fact animals, any cat-like being which is not an animal, in the actual world or in a counterfactual world, is not a cat.

2. Gold has the atomic number 79.
   ___ Certainly we could find out that we were mistaken. Given that gold *does* have the atomic number 79, could something be gold without having the atomic number 79?

**A:** Therefore, all the above statements are necessary, given that they are true in our world.

**Q:** What if they are not true in our world? Could we imagine that the world turns out differently? ➞ Conceptual possibility (Yablo) or epistemic possibility (Chalmers).

§ On Mind-brain Identity Theory

**Q:** Are the following statements necessary?

1. Light is a stream of photons.
   ___ Imagine a situation in which human beings were blind or their eyes don’t work. Would that have been a situation in which light did not exist? No. We fix what light is by the fact that it is whatever, out in the world, affects our eyes in a certain way. [see p. 130]

2. Heat is the motion of molecules.
   ___ In the case of the apparent possibility that molecular motion might have existed in the absence of heat, what seemed really possible is that molecular motion should have existed without being *felt as heat*. Heat ≠ the sensation of heat. [See p. 151]

But differently:

3. Pain is, say, C-fiber firing.
   ___ But there could be a brain state in which C-fiber is firing without pain, and there could be pain without C-fiber firing.
4. **Pain is being in pain.**

   “Being in pain” is a necessary property of each pain. Pain is picked out by the property of being pain itself, by its immediate phenomenological quality. Being in pain is an essential property of pain. [See p. 152]

Hence, 1, 2 and 4 are necessary identity while 3 is not an identity statement.

**Kripke’s conclusion:**

The mind-brain identity theory is wrong. Pain is not identical to any particular brain state in that for any brain state we pick out (e.g. C-fiber firing), we could always conceive the possibility that one has this brain state but not pain, or one has pain but not this particular brain state.

§ On Natural Kind Terms

(1) According to the view I advocate, terms for natural kinds are much closer to proper names than is ordinarily supposed.
   → Both are denotative, not connotative.
(2) For species, as for proper names, the way the reference of a term is fixed should not be regarded as a synonym for the term.
   → In the initial baptism, it is typically fixed by an ostension or a description.
      Otherwise, the reference is usually determined by a chain, passing the name from link to link.
(3) In the case of natural kinds, certain properties, believed to be roughly characteristic of the kind or believed to apply to the original sample, are used to place new items, outside the original sample, in the kind. On the other hand, an item may originally possess all the characteristics originally used and fail to belong to the kind.
(4) In general, science attempts, by investigating basic structural traits, to find the nature, and thus the essence of the kind. But scientific discoveries of species essence do not constitute a ‘change of meaning.’
(5) In the use of natural kind terms, as in the use of proper names, reference is determined by a causal (historical) chain. It matters not at all that different speakers may fix the reference of the name in different ways, provided that they give it the same referent.
(6) Theoretical identities are generally identities involving two rigid designators and therefore are examples of the necessary a posteriori.