24.119 Minds and Machines

Handout 7: The identity theory and Kripke's objection

The identity theory

Any sentence of the form `A = B' will be called an *identity statement*.

Some examples of (true) identity statements:

(1) Hans Blix = the chief UN weapons inspector

(2) The first postmaster general = the inventor of bifocals

(3) 4+9 = 13

(4) The number of planets = 9

(5) Water = H_2O

(6) Heat = the motion of molecules

See also Smart and Place on lightning/electrical discharges and clouds/masses of water droplets.

The Smart/Place identity theory is supposed to be a kind of "scientific" identity claim like (5) and (6). Using pain as a specific example of a conscious mental state, and pretending that "c-fibres firing" is the relevant kind of brain process, we can put the identity theory as follows:

(7) Pain = c-fibers firing

This is sometimes called a "type-type" identity claim, as opposed to a "token-token" identity claim. As discussed in class, this isn't a very happy use of terminology. The issue of so-called "type-type" vs. 'token-token" identities will crop up again when we read Davidson's "Mental Events".

Some identity statements are contingently true (that is, the propositions they express are contingently true), for example (1) and (2). And, more relevantly, Smart thought that (7) was a contingently true identity statement.

Kripke against the identity theory

The necessity of identity

Consider any object *o*. *o* is identical to itself. Further, *o* couldn't possibly have been identical to something else. In other words, necessarily *o* is identical to itself.

NB: do not confuse this thesis with the claim that names or other expressions in natural languages are rigid designators. The necessity of identity is not a thesis about language at all.

Rigid designation

A term `T' is a *rigid designator* just in case "in every possible world it designates the same object" (quoting from Kripke's book, *Naming and Necessity*). A rigid designator `T' *rigidly designates* an object *o* just in case in every possible world it designates *o*.[1]

This terminology can be a bit confusing. Think of the idea this way. Imagine some possible world w. Consider the questions: "Who (or what) is T in w?", and "Who (or what) is T in the actual world?" (or, simply, "Who (or what) is T?"). If, for every world w, these questions have the *same* answer -- namely, "A certain object *o*" -- then `T' is rigid. If the questions can be read so that the answer to one is "A certain object *o*", and the answer to the other is "A certain object *o*\*", and *o* and *o*\* are different objects, then `T' is not rigid.

An intuitive test for rigidity

`T' is rigid just in case the result of replacing the dots with `T' in:

(8) No object other than...might have been...

has no reading on which it is false.

Rigid designators and necessarily true identity statements

Suppose `A' and `B' are both rigid designators. Then:

(9) If `A=B' is true, it is *necessarily* true.

Exercise: convince yourself of this.

Some of Kripke's theses about English

Three important claims Kripke makes about English are these:

(10) Proper names (e.g. `Aristotle', `Avril Lavigne', `Boston') are rigid designators.

(11) "Natural kind" terms (e.g. `gold', `water', `tiger', $H_2O$', `c-fibers') are rigid designators.

And:

(12) `Pain' is a rigid designator

Thus, "scientific" identity statements like:

(5) Water = H_2O

(12) Light = a stream of photons

(6) Heat = the motion of molecules

are, according to Kripke, *necessarily* true if true at all.

Although there could have been something *looking and tasting very much like water* that was not H_2O, according to Kripke there could not have been any samples of *water* that were not samples of H_2O.

So, assuming Kripke is right, if (5) and (6) are true, they are *necessarily* true, contrary to what Smart and Place evidently thought. And the same should go for (7): if 'Pain = c-fibers firing' is true, it is necessarily true.

Kripke's argument against the identity theory (Argument D revisited)

Consider the following objection to (6):

If `Heat = the motion of molecules' is true, it is necessarily true. But it isn't necessarily true! It's clearly possible that heat might not have been the motion of molecules.

Reply. No, it isn't clearly possible that heat might not have been the motion of molecules -- and I can explain why it's tempting to think otherwise. What is clearly possible is that people have the "sensation of heat" (i.e. the characteristic kind of sensation we get when stepping under the shower) without there being any motion of molecules (imagine, say, that they live in a world in which matter is not composed of molecules). You have just misdescribed that possible situation as one in which heat is not the motion of molecules.

Now consider the analogous objection to (7):

If `Pain = c-fibers firing' is true, it is necessarily true. But it isn't necessarily true! It's clearly possible that pain might not have been c-fibers firing.

Kripke's claim is that the analogous reply is not available: a possible situation in which people have sensations of pain without there being any c-fibers firing is not "misdescribed" as a possible situation in which pain is not c-fibers firing -- it *is* a possible situation in which pain is not c-fibers firing! Absent some alternative reply (for one, see Nagel, "What is it like to be a bat?", note 11), the objection to (7) seems cogent.

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[1] To avoid a complication that is irrelevant for our purposes, we will ignore possible worlds in which the object **o** does not exist.