

Minds and Machines

spring 2003

The explanatory gap and
Kripke's argument revisited

preliminaries

- handouts on the knowledge argument and qualia on the website

“Materialism and qualia: the explanatory gap”

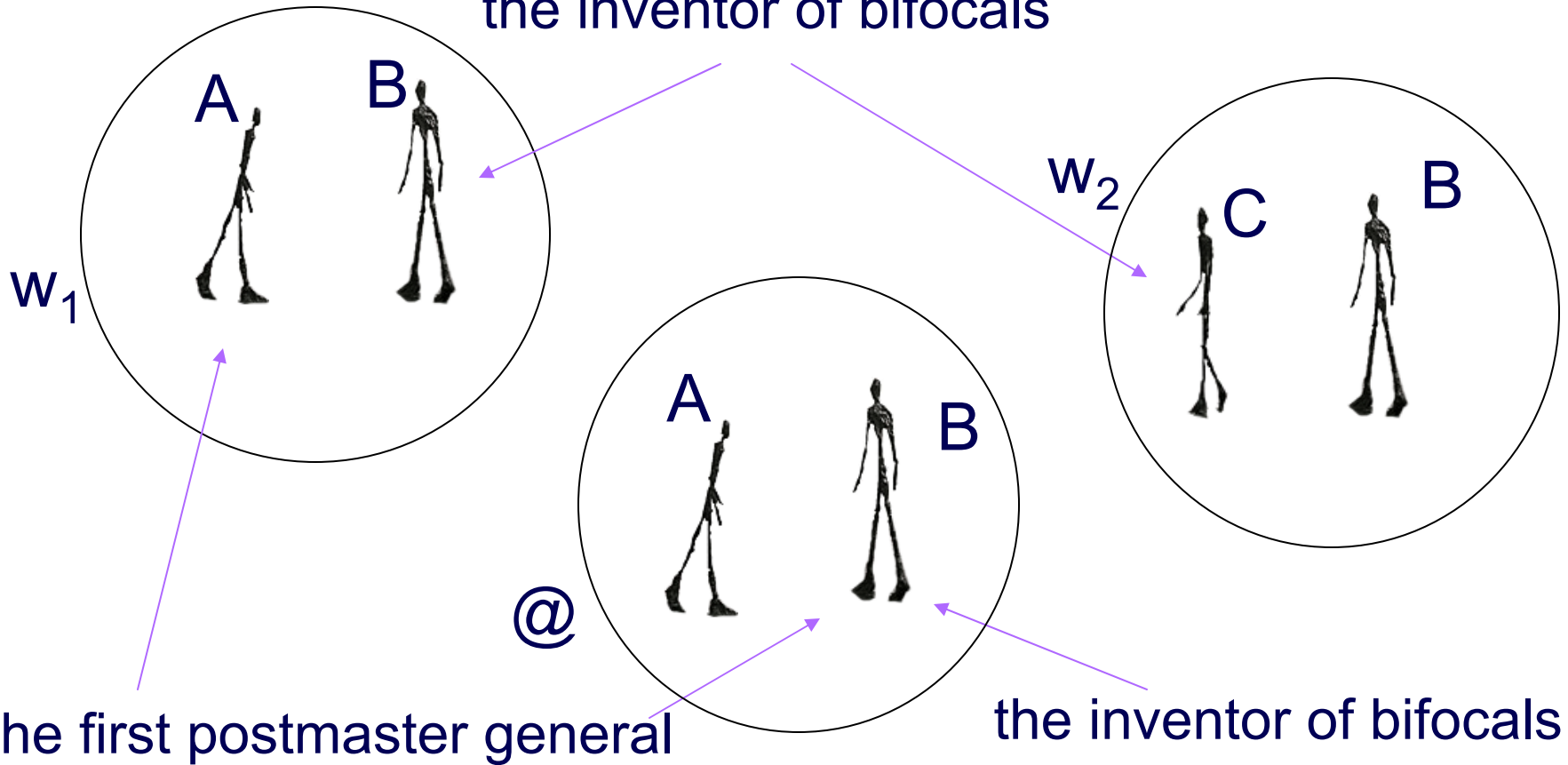
- Levine’s position is similar to Nagel’s: physicalism is (or may well be) true, but we don’t understand how it’s true
- Levine arrives at this conclusion by “transform[ing] Kripke’s argument from a metaphysical one into an epistemological one”
- Levine would accuse Jackson of “transforming an *epistemological* argument (about knowledge/ignorance) into a *metaphysical* one (about physicalism)”

“Materialism and qualia: the explanatory gap”

- Kripke argues that pain \neq c-fibers firing (a “metaphysical” conclusion)
- Levine thinks this argument does not work, but a related argument shows that “psycho-physical identity statements leave a significant explanatory gap”
- although Levine’s argument does not show that physicalism is false, it does “constitute a problem for materialism”

a Kripke refresher

the inventor of bifocals



identity statements and rigid designators

- 'The inventor of bifocals = the first postmaster general' is contingent
- 'The inventor of bifocals = Ben Franklin' is contingent
- 'Samuel Clemens = Mark Twain' is necessary
- If 'A' and 'B' are rigid, then 'A = B' is, if true, *necessarily* true

according to Kripke, the following are rigid designators

- proper names like 'Benjamin Franklin', 'Avril Lavigne'
- nouns for "natural kinds", like 'heat', 'tiger', 'water', 'c-fibers'
- nouns for sensations like 'pain'

so, according to Kripke, the following identities are necessarily true, if true at all

- heat=molecular kinetic energy
- pain=c-fibers firing

argument K_1

1. If I can clearly and distinctly conceive a proposition p to be true, then p is possible.
2. I can clearly and distinctly conceive that there is heat without mke (and vice versa). That is, I can clearly and distinctly conceive that the proposition that heat=mke is not true.

Therefore:

3. There is a possible world in which heat is not mke (it is not necessarily true that heat=mke).
4. If it's *true* that heat=mke, then it is *necessarily* true.

Therefore (from 3, 4):

5. Heat is not mke.

objection

(2) is false. What you are really imagining clearly and distinctly is a situation in which someone senses a phenomenon in the same way we sense heat, that is, feels it by means of its production of the sensation we call 'the sensation of heat', even though that phenomenon was not molecular motion...and that the person does not get the sensation of heat when in the presence of molecular motion. (See Kripke, 331)

argument K_2

1. If I can clearly and distinctly conceive a proposition p to be true, then p is possible.
2. I can clearly and distinctly conceive that there is pain without c-fiber firing (and vice versa). That is, I can clearly and distinctly conceive that the proposition that pain=c-fiber firing is not true.

Therefore:

3. There is a possible world in which pain is not c-fiber firing (it is not necessarily true that pain=c-fiber firing).
4. If it's *true* that pain=c-fiber firing, then it is *necessarily* true.

Therefore (from 3, 4):

5. Pain is not c-fiber firing.

objection?

“I do not see that such a reply is possible. 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*.”

“But, a situation in which c-fiber firing exists without being *felt as pain* is a situation in which it exists without there *being any pain*.”

(See Kripke, 331)

Levine's objection: deny (1)

1. If I can clearly and distinctly conceive a proposition **p** to be true, then **p** is possible.

“Since epistemological possibility [i.e. clear and distinct conceivability] is not sufficient for metaphysical possibility, the fact that what is intuitively contingent turns out to be metaphysically necessary should not bother us terribly. It's to be expected.”

- o one might think this reply is a bit dismissive—surely conceivability *is* a good guide to possibility, so why does it fail in this case? (Hill offers an explanation)

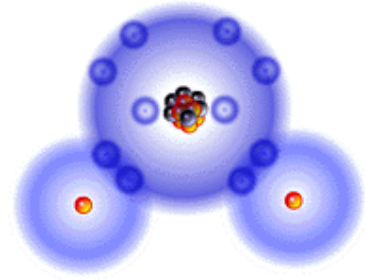
explanatory and “gappy” identities

- 1) pain=c-fibers firing
- 2) heat=molecular kinetic energy
- 3) pain=functional state F

“Statement (2), I want to say, expresses an identity that is fully explanatory, with nothing crucial left out. On the other hand, statements (1) and (3) do seem to leave something crucial unexplained, there is a “gap” in the explanatory import of such statements.”

explanation and reduction

“The basic idea is that a reduction should explain what is reduced, and the way we tell whether this has been accomplished is to see whether the phenomenon to be reduced is epistemically necessitated by the reducing phenomenon...I claim we have this with the chemical theory of water but not with a physical or functional theory of qualia” (“On leaving out what it’s like”)



explanation and reduction

“...we have to recognize an a priori element in our justification. That is, what justifies us in basing the identification of water with H_2O on the causal responsibility of H_2O for the typical behavior of water is the fact that our very concept of water is of a substance that plays such-and-such a causal role”



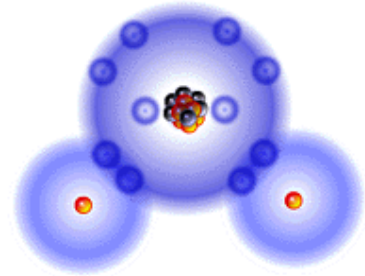
from the philosophical toolkit:

- **a priori** and **a posteriori** truths (true propositions)
- an *a priori* truth is one knowable independently of experience
- an *a posteriori* truth is one knowable only on the basis of experience

(not implausible) examples of a priori truths

- mathematical truths: there is no highest prime, there are uncomputable functions, e is irrational,...
- logical truths: either it's snowing or it isn't, if Fred is rich and unhappy then he's unhappy,...
- “analytic” truths: bachelors are unmarried, vixens are foxes, if something is red it's colored,...

- these are all examples of *necessary* truths
- are the categories of the a priori and the necessary the same?
- Kripke argued that they aren't; in fact, we have already seen some examples of *necessary a posteriori* truths (e.g., water= H_2O)



an explanatory reduction of water to H_2O

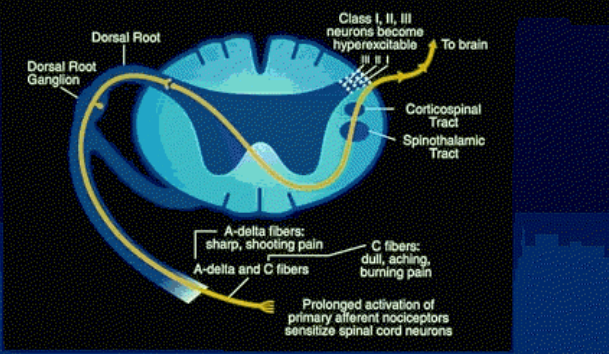
- 1 water = the clear odorless liquid that falls as rain and flows in the rivers and streams (e.g.) [a priori or “conceptual” truth]
- 2 H_2O = the clear odorless liquid that falls as rain and flows in the rivers and streams [a posteriori or empirical truth]

Hence

3 water= H_2O

- this is both a justification of 3 and an explanation of it

is there an explanatory reduction of pain to c-fiber firing?



- 1 pain = the state that does ????? [a priori or “conceptual” truth]
- 2 c-fiber firing = the state that is caused by bodily damage, causes avoidance behavior, etc. etc. [a posteriori or empirical truth]

Hence

- 3 pain=c-fiber firing

- “there is more to our concept of pain than its causal role, there is its qualitative character, how it feels...” (so there is no plausible candidate for the first premise)

summing up

- in order to *explain* why pain=c-fiber firing, we need to deduce this identity from conceptual truths plus empirical claims about c-fibers
- Kripke's argument illustrates why we can't do this: if we could, then c-fibers firing without pain (or vice versa) wouldn't be conceivable
- since the missing explanation is also the only way we can *justify* (or justify more-or-less conclusively) that pain = c-fiber firing, this identity claim is "epistemologically inaccessible...a very undesirable consequence of materialism" (p. 359)

an objection and Levine's current view

Joe Levine

- one might wonder whether it's a conceptual truth that water = the clear odorless liquid.... (see Block and Stalnaker)
- if it isn't, then Levine's account of the difference between "water=H₂O" and "pain=c-fiber firing" is mistaken
- Levine later denied that there are any such conceptual truths about water, but still maintains his view that there is an "explanatory gap"—in his book *Purple Haze*

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- read Chalmers,
“Consciousness and...”