A Temporal Knowledge Argument

...Nancy is in a room whose time is entirely described by McTaggart's B-series. At $t = 10$ minutes she walks into a room described, at least partly, by McTaggart's A-series. Does anything new happen? Does she experience anything new? Does she learn anything new?

The knowledge argument is famous. The purpose of this note is to indicate there may be an analogous argument with respect to time, what might be called a temporal knowledge argument (TKA). The knowledge argument was intended to show that physicalism is false. Analogously, the TKA may be read as an attempt to show that B-theorism (the idea that all temporal features can be accounted for by B-series information) is false.

Definitions

The A-series is {past, present, future} and the B-series is {earlier, simultaneous, later}. The A-series theory, for the purposes of this note, includes the information of (1) temporal becoming, and (2) an ontologically privileged moment 'now'. B-series times are structurally related to each other. The AB-theory includes both kinds of information as non-inter-reducible. (Berg 2010).

The physical is physical matter. Qualia are *what it is like* to experience, for example, the color blue.

The TKA, part 1

The Knowledge argument is (Jackson (1982))

"Mary is a brilliant scientist who is, for whatever reason, forced to investigate the world from a black and white room via a black and white television monitor. She specializes in the neurophysiology of vision and acquires, let us suppose, all the physical information there is to obtain about what goes on when we see ripe tomatoes, or the sky, and use terms like 'red', 'blue', and so on. She discovers, for example, just which wavelength combinations from the sky stimulate the retina, and exactly how this produces *via* the central nervous system the contraction of the vocal chords and expulsion of air from the lungs that results in the uttering of the sentence 'The sky is blue'.… What will happen when Mary is released from her black and white room or is given a color television monitor? Will she *learn* anything or not? It seems just obvious that she will learn something about the world and our visual experience of it. But then it is inescapable that her previous knowledge was incomplete. But she had *all* the physical information. *Ergo* there is more to have than that, and Physicalism is false."

A temporal knowledge argument would be some variant of

"Nancy is a brilliant scientist who is, for whatever reason, forced to investigate the world from a B-series room. She specializes in the philosophy of time and acquires, let us suppose, all the B-series information there is to obtain about what goes on when we experience becoming and a privileged 'now'. She discovers, for example, just which periodic systems are in the brain, and exactly how these help to produce *via* the brain's methods of keeping track of time the neural processes that lead to the expulsion of air from the lungs that results in the uttering of the sentence 'there is temporal becoming and a privileged 'now'. What will happen when Nancy is released from her B-series room to an adjoining A-series room (a room that is at least in part described by the A-series)? Will she *learn* anything (or experience anything new) or not? It seems just obvious that she will learn something about the world and our temporal experience of it. But then it is inescapable that her previous knowledge was

incomplete. But she had *all* the B-series information. *Ergo* there is more to have than that, and B-theorism is false."

A 2-Dimensional semantics interpretation will be explored below.

(If she leaves the first room at t = 10 minutes, she then experiences A-series features. One question I have is what happens to the 'previous' B-series information?)

Zombies

Zombies "are exactly like us in all physical respects but without conscious experiences: by definition there is 'nothing it is like' to be a zombie. Yet zombies behave just like us, and some even spend a lot of time discussing consciousness." (Stanford, Zombies, 2015)

Might be translated to

Temporal zombies are exactly like us in all structural respects but without an ontologically privileged 'now' or genuine temporal becoming. Yet temporal zombies are structurally related to their past and future (B-series) selves just like us, and some even spend a lot of time discussing the A-series."

Spectrum inversion and time reversal

Does spectrum-inversion correspond to time-reversal? (Stanford, Inverted Qualia 2015) I don't know. There's at least 3 notions of time-reversal in the 2-D theory.

1. The A-series stays the same but the B-series is reversed. In this case there is still an ontologically privileged 'now' and temporal becoming still runs forwards. But the B-series is reversed, so if temporal becoming normally runs (reading the A-series from left to right over the structurally related B-series values b), … $b_i < b_{i+1}$ …, the reversed notion will run as … $b_i > b_{i+1}$ …,

2. The A-series is reversed but the B-series stays the same. In this case there is still an ontologically privileged 'now', but temporal becoming runs backwards (reading from left to right still), … $b_{i+1} > b_i$ …

3. Both the A-series and the B-series are reversed. In this case there is still an ontologically privileged 'now', but temporal becoming runs backwards over a B-series that has been reversed … $b_{i+1} < b_i$ ….

Taking into account causality or entropy would add complications.

The TKA, part 2

(Chalmers 2002b) "The epistemic intension for an indexical concept is also very simple. The epistemic intension of my concept *I* picks out the individual at the center of a scenario. The epistemic intension of *now* picks out the time at the center. The epistemic intension of *here* picks out the location of the individual at the center, at the time at the center. The epistemic intension of *today* picks out (roughly) the day that includes the time at the center. And so on."

There is an 'epistemic intention' given the way the world actually is, and there is a 'subjunctive intention' that is subjunctive, based on the way the world could have been. If B were (counterfactually) true would A be true? In our case, if 'now' is the 6th of September, it cannot be otherwise, i.e. it cannot

be that the *actual* world is *currently* at some other time. On the other hand, subjunctively, it *might have been the case* that the current time is the 5th of September.[1]

"Let us say that a sentence S is 1-necessary when its epistemic intension is true at all centered metaphysically possible worlds, and that it is 1-contingent when its epistemic intension is false at some centered metaphysically possible world. Let us also say that a sentence S is 2-necessary when its subjunctive intension is true at all worlds, and that it is 2-contingent when its subjunctive intension is false at some world." Let B be the sentence of all the truths of the B-series, and A be the sentence of all truths of the A-series. The translated argument is

(1) 'B ⊃A' is a posteriori

(2) If 'B ⊃A' is a posteriori, 'B ⊃A' is 1-contingent

(3) If 'B ⊃A' is 1-contingent, 'B ⊃A' is 2-contingent

(4) If 'B ⊃A' is 2-contingent, B-theorism is false

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B-theorism is false

Since 'the B-series implies the A-series' is subjunctively contingent, the B-series does not account for A-series information in all possible worlds. So B-theorism is false.

(1) is justified as the information is given to us, to put it a certain way, experimentally.

About the original version of (2) Chalmers says "This thesis is plausibly true of all the a posteriori necessary statements that Kripke considers. For example, the epistemic intension of 'water is H_2O' is false at a Twin Earth centered world. The epistemic intension of 'Hesperus is Phosphorus' is false at a centered world where the evening star near the center is distinct from the morning star near the center. And so on. All these worlds are metaphysically possible. The claims above are quite compatible with Kripke's claim that these sentences are necessary. In effect, Kripke's claim is that the *subjunctive* intension of these sentences are true in all worlds, or that they are 2-necessary. This is quite compatible with their *epistemic* intensions being false in some worlds.

The 2D thesis above allows us to make inferences from epistemic claims to claims about metaphysical possibility, and from there to metaphysical conclusions. As such the thesis is substantive rather than trivial, and we will look later at attempts to deny it. For now, it is enough to note that the principle appears to fit all of Kripke's cases.

(A related thesis holds that when S is a posteriori, its epistemic intension is false at some epistemically possible scenario. This purely epistemic thesis, by contrast to the last, is more or less trivial on the two-dimensional framework, but does not license inferences from epistemic claims to metaphysical conclusions. In what follows, it will always be metaphysically possible worlds rather than epistemically possible scenarios that are relevant.)

1 A virtue of the 2-D definition is that one is able to define the rate: change in B-series information per change in A-series information, where these changes have different dimensions. See (Maudlin 2006) for an account in which they non-trivially have the same dimension.

One problem can be solved straightforwardly by conjoining to P a "that's-all" claim T, saying that our world is a *minimal* world satisfying P (roughly, a world containing no more than it needs to in order to satisfy P). " (Chalmers 2002b)

With the 2D framework at hand, we can, if this works, reformulate the temporal knowledge argument as:

(1) 'BT ⊃A' is a posteriori

(2) If 'BT ⊃A' is a posteriori, 'BT ⊃A' is 1-contingent

(3) If 'BT ⊃A' is 1-contingent, 'BT ⊃A' is 2-contingent

(4) If 'BT ⊃A' is 2-contingent, B-theorism is false

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(5) B-theorism is false

There is one more version of the argument taking into account panprotopsychism in (Chalmers 2002a), but I don't think there is a TKA version of it (i.e. there's no analogue to panprotopsychism). The question is if (3) is plausible. It would seem to be, since if the A-series is contingent, it could have been the case that the A-series is contingent.

"So here [at version 3] we have a very promising version of the knowledge argument: a valid argument for a strong ontological conclusion about consciousness, based on the epistemic intuition about the Mary case along with three other independently plausible premises."

Another issue is how to define the difference between the A-series and the B-series. The TKA version is that the A-series and the B-series have *different modes of presentation*. "*The old-fact/new-way reply*: According to the most popular response to the knowledge argument, Mary gains knowledge of a fact she already knew, under a different mode of presentation ..." (Chalmers 2002a).

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