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10. New thoughts about old facts. On Prior's root canal*

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10.1. Introduction

In his 1908 paper, “The unreality of time,” McTaggart introduced some terminology that has perdured until now. He distinguished between different ways positions in time could be ordered. On the A-series, positions are ordered according to their having the properties of being past, present or future. These properties have come to be known as “A-properties.” On the B-series, positions are ordered by two-place relations: earlier-than, simultaneous-with and later-than. These have come to be known as “B-relations.”

This terminology has permeated the debate on the philosophy of time for the last century. The disagreement between A and B-theorists is at the heart of the ontological debate on the nature of time: Is there an objective difference between past,

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present and future, or not? Are past, present and future key pieces of reality's furniture, or are they rather part of humans' cognitive and linguistic apparatus? Both, perhaps?¹

A-theorists defend that A-properties are fundamental and B-relations derivative. They believe there is an objective distinction among past, present and future events and that the flow of time is real. It is in this sense that they are said to defend a "tensed" view of time.

B-theorists take B-relations as fundamental and deny the objective character of past, present and future. There is no past, only events that happen earlier than other events. Consequently, when we talk about an event being past we are not describing a fact about the world or about time, rather, what we are doing is describing the way we perceive, think and talk about time. The flow of time is thus a mere appearance, the result of the way our cognitive and linguistic apparatuses are shaped. All there is to time, they claim, is an event's temporal position in relation with another event's temporal position. They are said to defend a "tenseless" view of time.

When discussing the role of time in language and thought, it is often unclear how the various aspects of the discussion are related to each other. Ontological (and physical) considerations about the nature of time are raised, together with epistemological (and phenomenological) aspects about how we experience the flow and the direction of time and even semantic (and pragmatic) insights about our talk about time, without clear connections and distinctions between the arguments at each level. We think that some of the most pervasive arguments in favor of the A-theories are epistemic ones, although disguised as either ontological or linguistic.

¹ For a discussion of the A and B dichotomy with respect to time see LePoidevin (1998), Markosian (2014), and Mellor (1998).

Prior's famous paper "Thank Goodness that is over" (1959) is a clear case at hand: ontological, epistemic and linguistic considerations are entangled in a way that creates the illusion of an ontological argument about the nature of time. In this paper, we defend the thesis that Prior's argument, and those akin to it, are best interpreted as "knowledge arguments," similar to that raised by Frank Jackson (1986) against physicalism. We start by summing up Prior's challenge (section 2) and Jackson's knowledge argument (section 3). Our discussion comes then in three main steps. In section 4, which is about our various tools to refer to time, we challenge the assumption that utterances containing temporal indexicals and utterances containing dates, when uttered in the same circumstances, express different propositions. In section 5, which deals with the way we represent time in thought, we go back to the analogy with Jackson's argument and claim that in both cases, there are different motivating thoughts involved. Realizing and explaining this fact is key to rejecting the ontological conclusions both Prior and Jackson get to. We offer an explanation in section 6, making use of identity statements and thoughts. We reject the alleged ontological implications of Prior's paper in the concluding section.

10. 2. Thank goodness that's over

According to the A-theory, the passage of time is a real feature of the world, and not merely some mind-dependent phenomenon. Many arguments in its favor, however, rely on issues about temporal knowledge and the cognitive significance of time to conclude the inexorability of A-properties. The basic idea underlying these arguments is that a view that denies the existence of A-properties (e.g. being past) and reduces it to B-relations (happening earlier than) offers no grounds for tensed thoughts and tensed

emotions. That is, B-theories lack the tools to warrant thoughts about past events and the emotions they elicit—regret, relief, etc.— and the essential differences with thoughts about future events and the emotions they elicit—anxiety, hope, etc.

One such argument was presented by Prior (1959). Consider the repeatedly quoted fragment.

...[H]alf the time I personally have forgotten what the date is and have to look it up or ask somebody when I need it for writing cheques, etc.; yet even in this perpetual dateless haze one somehow communicates, one makes oneself understood, and with time references too. One says, e.g. “Thank goodness that’s over!” [...] says something which it is impossible that any use of a tenseless copula with a date should convey. It certainly doesn’t mean the same as, e.g. “Thank goodness the date of the conclusion of that thing is Friday, June 15, 1954,” even if it be said then. (Nor, for that matter, does it mean “Thank goodness the conclusion of that thing is contemporaneous with this utterance.” Why would anyone thank goodness for that?). (Prior 1959: 17)

This short paragraph encapsulates remarks with an impact at different levels: linguistic, epistemological and ontological. The clearest point, however, is the linguistic claim to the effect that, in the imagined circumstances, the following utterances wouldn’t say (or mean) the same thing:

- (1) Thank goodness the root canal is over [now].²
- (2) Thank goodness the date of the conclusion of the root canal is Friday, June 15, 1954.
- (3) Thank goodness the conclusion of the root canal is contemporaneous with this utterance.

(1) is an A-utterance that through an (implicit) indexical expression refers to the (then) present day. (2) is a B-utterance that includes a particular date. (3) is a B-utterance that some authors (not Prior, of course) take to be the appropriate utterance-reflexive rendering of the meaning of (1).

Pace Prior, it is not obvious that in the right circumstances (1)-(3) express different propositions or say different things, but there is certainly little room for discussion that, as he claims, (2) and, in particular (3), are very odd sentences to utter in those circumstances. A semantic and pragmatic account should clarify the content and the cognitive significance of our tensed and tenseless ways of referring to time. As Prior claims in his closing rhetorical question, it is very difficult to imagine why should anyone utter (2) and (3) in those circumstances or, moving from the linguistic level to the psychological, why anyone should feel thankful that the conclusion of the root canal is contemporaneous with that feeling.

² We write “now” within brackets to make clear that, in this case, the present tense designates the present time (the time of the utterance), and not a “zero-tense” like in “2 plus 2 equals 4.” On many occasions an explicit “now,” though arguably redundant, might be useful to avoid this ambiguity (see de Ponte, forthcoming).

Interestingly, most readings of Prior's argument take it to be basically about ontology (Zimmerman 2008, Maclaurin & Dyke, 2002). If these readings are right, Prior is arguing against B-theories, or the tenseless view of time. From the implausibility of B-utterances like (2) and (3) and the perfect plausibility of an A-utterance like (1), the implausibility of the B-series and the plausibility of A-series would naturally follow. Or so it is claimed.

The key question would then be: What is it that makes people exclaim (1), and not (2) or (3) upon leaving the dentist's office? The answer, according to the ontological reading, requires including A-properties into the basic furniture of the world. One feels thankful, when the root canal finishes, because one takes the event to have a certain property: the property of being over, i.e. the property of being past. An utterance referring to that A-property makes sense. When the reference to the A-property is substituted by reference to a B-relation or a date (like in (2) and (3)) the utterance sounds awkward. The difference in the meanings (and contents) of (1), (2) and (3) amounts, according to this interpretation, to a difference in the properties of events being talked about. In a nutshell, A-utterances like (1) (and their corresponding A-thoughts) require the existence of A-properties.

We agree, to a certain extent, with Prior. Indeed, we take it to be an almost trivial fact about human cognition: (1) must involve A-thoughts that include tensed reference to the past for humans to be able to feel anything like happiness about the conclusion of some unpleasant event; and, similarly for the presentness of pain and the anxiety about a future event. B-thoughts about the temporal relations of precedence, simultaneity or succession of a pair of events are not enough. We need something else.

What this else might be, though, is far from clear. Embedded within Prior's challenge there is a claim about the object of emotional reactions, utterances and

thoughts. The idea is that A-properties—past, present and future—must get into the picture, first, as fundamental elements of reality and, second, as ingredients of the content of our utterances and thoughts. We agree, with qualifications, with the second requirement.³ We argue that the first one is unjustified and superfluous. On the one hand, the inference from the tensed nature of some of our utterances and thoughts to the fundamental tensed nature of time is unjustified. On the other hand, even if we were to accept it, that wouldn't give us an explanation of our different cognitive and emotional reactions to time. After all, why would the fact that a certain event, say, a root canal, has a certain property, say, "being past," account for the agent's emotions?

Applying our views on the semantics and pragmatics of temporal reference (see Korta and Ponte 2015 for a detailed account), which combine a direct reference theory of singular terms with a token-reflexive theory of indexicals, we contend contra Prior that, in the imagined circumstances, (1)-(3) express the same proposition, i.e., say the same thing. Nevertheless, as Prior insists, they are different sentences with different meanings. They have, therefore, different cognitive significance. With this at hand, we show that Prior's linguistic remarks do not have any ontological impact.

As hinted above, Prior's challenge to B-theories seems to involve not only the difference between A- and B-utterances but also basic considerations about the

³ The qualifications are important, though. We use "A-thoughts" and "A-utterances" for the kind of utterances or thoughts that, according to Prior, involve A-properties, but that, in our approach, need not; they just contain "tensed" expressions and thought-components (i.e. indexicals and their thought-equivalents). So, we agree with Prior that A-utterances and A-thoughts must get into the picture; we disagree that A-properties must also do so. See section 10.4 below.

corresponding distinction between A- and B-thoughts.⁴ In this paper, we take Prior's challenge as a kind of "knowledge argument," analogous to the one presented by Jackson (1986) against physicalism, and we claim that, likewise, Prior's epistemic claim fails to have any ontological impact either.

10.3. The knowledge argument and Prior's challenge

Let us consider first Prior's example in some detail. Imagine that Arthur had a particularly painful root canal performed on him, on Friday, June 15, 1954. By noon the root canal is over, the procedure is finished and the after-effects are gone, something he is truly thankful for, so he utters:

(1) Thank goodness that's over!

Leaving aside exactly what the emotion of relief expressed in "thank goodness" amounts to, it is clear that, in order to be thankful, Arthur needs to have certain thoughts. He needs to think that the root canal has finished, that it is over, that it is no longer happening at the time of (1). This, Prior suggests, entails thinking that the root canal is past.

⁴ We use the term "thought" (and the verb "to think") to talk about mental states or propositional attitudes, including not only beliefs (either conscious or implicit), but also more basic forms of "attunement" with reality that guide our cognition and action.

As we said above, Prior's dilemma can be seen as a type of knowledge argument, similar to Frank Jackson's (1986) argument against physicalism, which, roughly, reads like this.⁵

A bright scientist called Mary has been confined in a black and white room all her life. Unlucky as she is, her education is thorough and she has access to all the information there is to have about colors. She lives in a very advanced society and this information is complete, so, through her non-colored books and black and white TV, she gets to know all there is to know about the physical properties of colors. Now, if physicalism is correct we have to accept that Mary has all the information about colors simpliciter. Nevertheless, she has never seen a color. One day Mary is released and the first thing she sees is a red tomato. Does she learn anything?, does she learn a new piece of information about the color red? Jackson argues that she learns "what it is like to see something red" (Jackson 1986: 291), and that this proves that physicalism is wrong. Mary did not have all the knowledge about colors before her release, and that means there are certain non-physical facts she didn't know.

There are various takes on Jackson's argument. It can be interpreted merely as an epistemological argument, with no consequences for the metaphysics of qualia. But

⁵ Kiernan-Lewis (1991) also defends that Prior's challenge should be viewed as a type of knowledge argument. His conclusions however differ substantially from ours. For one, he endorses the challenge, while we take it as a nonstarter. See Oaklander (1992) for a criticism of Kiernan-Lewis' proposal.

that's not Jackson's own purport. He clearly takes it to be an argument against physicalism, showing that not all facts (and properties) are physical.⁶

Let us consider the argument with more detail:

- (A) If physicalism is true, then all facts are physical.
- (B) If all facts are physical, then all knowledge is about physical facts.
- (C) Mary knows all physical facts about color, so she knows everything about colors.
- (D) When Mary sees the red tomato after her release, she gains new knowledge.
- (E) What Mary learns must be non-physical.
- (F) So, physicalism is false

Jackson's argument starts with an ontological premise, followed by various epistemological premises about Mary's knowledge which lead to an ontological conclusion to the effect that qualia, i.e. the qualitative features of our conscious experience are non-physical and, hence, physicalism is false.

Most physicalists have adopted what Nida-Rümelin (2015) calls the "New Knowledge/Old Fact view," which basically consists in accepting premises (A)-(D), while rejecting (E) and (F). Or, better said, the ontological reading of (E); because as it stands, this is ambiguous between an epistemic and an ontological reading. If it just

⁶ Jackson changed his views on the matter after the publication of the argument, adopting a form of physicalism and thus rejecting the strong reading of it. See Nida-Rümelin (2015) for a detailed account of the different interpretations of the argument.

claims that the kind of new knowledge that Mary acquires after being released is non-physical, physicalists can accept it, since it wouldn't yield (F) as a conclusion. They would still have to clarify what kind of knowledge such new non-physical knowledge was, but physicalism would be untouched by the knowledge argument. If, on other hand, what (E) claims is that what Mary learns is a new non-physical fact, physicalists should reject it.

Whatever the reactions to Jackson's knowledge argument, we want to compare it with Prior's point in the root-canal example. In our reconstruction, we are presented with Arthur, about whom we know very little. We know that he had a root canal performed on him on Friday, June 15, 1954 and that upon finishing he's feeling thankful because it is over and, thus, utters (1). Now, according to B-theories, all there is to time are the B-relations and there is no ontological difference between past, present and future. If we accept this, all Arthur thinks is that the conclusion of his root canal happened at a time that is earlier than the time of (1). But this, Prior suggests, is insufficient to generate emotions of thankfulness. It would certainly be odd if Arthur were to exclaim, referring to the end of the root canal,

(4) Thank goodness that's earlier than the time of this utterance!

or any of the other tenseless alternatives, such as (2) and (3). Arthur needs a different type of thought, an A-thought, to feel thankful. If B-thoughts were all the knowledge Arthur had, there would be certain—non-B—facts about time he wouldn't know. Hence, B-theories are wrong and A-properties are fundamental elements of reality. We can reformulate Prior's challenge as follows:

- (a) If B-theory is true, then reality is tenseless (all events are ordered by B-relations and there are no A-properties)
- (b) If reality is tenseless, then all knowledge is about tenseless reality (events ordered by B-relations)
- (c) Arthur knows that the date of the conclusion of the root canal is Friday, June 15, 1954 (a B-thought), so he knows all there is to know about the time of conclusion of the root canal.
- (d) On Friday, June 15, 1954, it should be reasonable for him to utter (3) “Thank goodness the conclusion of the root canal is contemporaneous with this utterance,” but it is not. (1) is.
- (e) What Arthur thinks when uttering (1) must be tensed (an A-thought)
- (f) So, B-theory is false

The structure of Prior’s argument resembles the structure of the knowledge argument. Facing it, B-theorists are in a position similar to that of physicalists facing Jackson’s argument. They can accept premises (a)-(d) with no qualms. What they need to reject is conclusion (f), and the ontological reading of (e). If all (e) says is that the kind of thought that Arthur has to have in order to motivate him to utter (1) is an A-thought, then the B-theorist can accept it.⁷ If what (e) claims is that the A-thought is about an A-fact, then the B-theorist should reject it.

Going further in the parallelism, the position of the B-theorist accepting (a)-(d) plus the epistemological reading of (e), and rejecting the ontological reading of (e) plus

⁷ This would essentially be the position of so-called “new B-theorists” like Mellor (1998) and Oaklander (1994)

(f) can be tagged as a “new A-thought/old B-fact” sort of view. We show now how such a view would account for Prior’s insights.

10.4. New A-thought / Old B-fact

Prior’s argument, as we reconstruct it, makes the following assumptions about language, thought and reality:

- i. Utterances (1)-(3) express different propositions.
- ii. Utterances (1)-(3) are associated with different thoughts.
- iii. The proposition related to utterance (1), and its associated thought, requires the existence of an A-property of events.⁸

Our approach makes different assumptions. To begin with, we deny assumption (i). The sentences used in (1)-(3) have different meanings but, in the imagined circumstances, Arthur says the same thing; he expresses the same proposition. This is implied by a direct reference theory of indexicals like “I,” “here,” and “now,” demonstratives like “she,” “he,” “this,” and “that,” names like “Jones,” “Arthur,” and “Mary,” and (referential uses of) definite descriptions like “Smith’s murderer,” “the queen of

⁸ It could be argued that Prior’s challenge suggests the stronger assumption that *all* utterances (1)-(3), and their associated thoughts, require the existence of A-properties. We stick to the weaker claim, first, because it seems to be all he is clearly committing to in his 1959 paper. Second, because, if our criticism to the weaker assumption is right, then it will also be valid against the stronger one.

England,” and “the time of this utterance.” In the right circumstances (described in square brackets), the speaker says the same thing in uttering (5)-(8).

(5) I am insane [uttered by Jones]

(6) He is insane [uttered demonstrating Jones]

(7) Jones is insane

(8) Smith’s murderer is insane [uttered intending the audience to pick out Jones]

The proposition expressed is a singular proposition involving the individual Jones and the property of being insane. This is true if and only if the individual Jones is insane, and regardless of what his name is, whether or not he uttered (5), and whether or not he murdered Smith.⁹ Marcus (1961), Donnellan (1966), Kaplan (1989), Kripke (1980), Perry (1977, 1979) and others have provided convincing arguments that all these noun phrases contribute an individual to the proposition expressed by the utterance containing them. Using them in the appropriate circumstances, the speakers would express the same proposition; they would say the same thing.¹⁰

Along the same lines, we contend that (1)-(3) express the same proposition, a proposition that contains the same time—Friday, June 15, 1954—referred to by the utterance of the (implicit) indexical “now” in (1), the name “Friday, June 15, 1954” in

⁹ For the sake of simplicity, in these examples we ignore issues concerning tense and time.

¹⁰ Concerning (8), Donnellan (1966, 1978) and Kripke (1977) disagree on whether the referential use of the definite description is semantic or pragmatic, but that should not bother us here.

(2), and the predicate “being contemporaneous with this utterance” in (3).¹¹ There is no difference in what the speaker says by uttering (1)-(3) in the imagined circumstances. We agree with Prior, however, that utterances (1)-(3)—like (5)-(8)—are associated with different thoughts. What we mean by this is that their cognitive significance is different; or, more precisely, that in each utterance the thoughts that likely motivate the speaker (and the thought that the hearer likely acquire) are different. Take (5)-(8) again. If Jones wants to express the proposition that he is insane in a communicatively apt way (5) would be typically his most likely choice. To begin with, the normal way of thinking about oneself is essentially indexical, that is, a kind of thought that each of us would express using the first-person singular pronoun. Besides, this is the most direct way for his audience to identify the guy Jones is talking about: himself, or better, the guy talking in front of them. He could have expressed the same proposition with (6)-(8) but, in normal circumstances, the use of “he,” “Jones,” or “Smith’s murderer” would impose an extra cognitive burden on the audience. Something similar happens with Prior’s example.

Ex hypothesi, Arthur is in “a perceptual dateless haze” (Prior, 1959: 17) when he utters (1) and this is why it is clearly his most natural and practically only choice: (2) is unavailable to him, and (3) is an unnecessarily verbose (token-reflexive) rendering of “now.” His motivating thought is essentially indexical: it contains (the mental equivalent of) “now” and the present tense. That is to say, it is essentially tensed: an A-

¹¹ Dates are better considered as descriptions, we believe, since they provide systematic information about the position of their referents with respect to other days. Also, an account is due about how the predicate “being contemporaneous with this utterance” refers to a particular time or day, but we ignore these complications, assuming that they bear no relevance for present purposes.

thought. It is also the most direct way to communicate his thought to the audience: they identify the moment (day) of the utterance they're hearing. Utterance (2) imposes extra cognitive burden not only on the audience but on Arthur himself. It requires from him a knowledge about dates that he doesn't have, in his dazed condition, and from the audience an identification of the calendar date with the day of the utterance they are hearing. So, in those circumstances, (1) is the only natural utterance, as Prior says.

Suppose however that the New Zealand Dental Association announced that, starting on Monday, June 18, 1954 new prices for dental practices will be in force, and that the new price for a root canal will be double the previous one. In this context and with the root canal concluded, Arthur uttering (2) would sound perfectly natural when he is presented with the bill. He could have also uttered (1), but that wouldn't be communicatively very helpful to people who don't remember that the following Monday is June 18, 1954, the day the price of a root canal is going to double.

Or suppose that Arthur, still in his "perceptual dateless haze," reads in a newspaper "Roots canals to double in price starting Monday, June 18" and in his diary "Root canal" as an entry under Friday, June 15. As far as he knows, those dates can be situated in his past, his extended present, or his future. He just has the B-thought that his root canal be (tenseless) Friday, June 15, which is a couple of days earlier than the day of the rise in price: Monday, June 18. Thus, he sincerely utters (2).

To sum up, (1)-(3) express the same proposition—as (5)-(8) do—even if they are communicatively apt in different circumstances because they are associated with different motivating thoughts (some of them A-thoughts, some others B-thoughts) and present different cognitive routes for their respective audiences. Now, does this have any consequence for the existence of A-properties of events? If we are right, the answer is no.

The only fact that makes (5)-(8) true is that a certain individual—regardless of his name—referred to by himself with the indexical “I” or by someone else with a name, a demonstrative, or a description, is insane. Analogously, since (1)-(3) are taken to occur exactly at the same time, they are all made true by the same fact: a fact involving Arthur and his thankfulness regarding a root canal performed and concluded at a particular time on a particular date. It does not matter whether the event that Arthur is thankful about is in Arthur’s past, present or future (and then it would not yet exist). The only thing that matters for the truth of (1)-(3) is that at the time of the utterance Arthur is thankful about an event that occurs (tenselessly) on Friday, June 15, 1954—a B-event; and if real, an old B-fact.

10.5. Back to Mary

In section 3, we showed how Prior’s argument is similar to Jackson’s knowledge argument. Both go from predominantly epistemological premises to ontological conclusions. We claim now that Jackson’s knowledge argument can also be viewed as involving various assumptions about the content of certain utterances that contain color terms, their cognitive significance and the kind of things that make them true. Suppose that Mary—who knows everything there is to know about the physical properties of colors but has never seen anything red—upon seeing a red tomato for the first time expresses her happiness at having her first color experience. (9) sounds like a natural utterance.¹² (10) sounds bizarre. Why would anyone thank goodness about that?

¹² (9) might sound misleading. Arguably, Mary has seen red things in the past (say, on her black and white TV). What is new is knowing what it is like to see red. Mary’s new knowledge is

(9) Thank goodness I finally see red!

(10) Thanks goodness I finally see the color evoked by light with a predominant wavelength of roughly 620–740 nm.!

“Priorized” Jackson makes the following three assumptions:

- (I) Utterances (9) and (10) express different propositions
- (II) Utterances (9) and (10) are associated with different thoughts
- (III) The proposition related to utterance (9) (and its associated thought) requires the existence of non-physical properties of visual experiences of color.

If (I) is rejected and (II) accepted, there is a pretty straightforward way to account for the intuitions raised by the example, without needing to accept anything like (III).

Direct reference theories of natural kind colors, like Kripke’s (1980), for instance, tell us that if an identity statement like “red is the color evoked by light with a predominant wavelength of roughly 620–740 nm.” is true, then it is necessarily true.¹³ Hence, there is nothing more to the meaning of a natural kind term like “red” than its

about the color red: “Red has the property of being like *this* to see (for a normal person).” That is what she is expressing by uttering (9). (Thanks to John Perry for raising this point.)

¹³ Necessarily true but known a posteriori.

theoretical (and physicalist) definition, and the contribution each term makes to the proposition expressed by (9) and (10) is exactly the same—their common referent.

Utterances (9) and (10) have different cognitive significance, however. They are associated with different thoughts. One can believe that (11) is true; and disbelieve, or at least suspend belief about (12).

(11) This tomato is red

(12) This tomato is the color evoked by light with a predominant wavelength of roughly 620–740 nm.

Of course, the difference lies in the different thoughts associated to each utterance. (9) and (11) use the ordinary concept “red;” (10) and (12) use the theoretical description “the color evoked by light with a predominant wavelength of roughly 620–740 nm.” They constitute different motivating thoughts and, typically, they produce a different impact on their audience.

In the imagined circumstances, (9) sounds natural whereas its cumbersome counterpart (10) sounds anything but natural. But there might be circumstances in which (10) could be more natural. Suppose that Mary forgets for a second the color name associated with the description “the color evoked by light with a predominant wavelength of roughly 620–740 nm.,” but remembers perfectly that the predominant wavelength of approximately 620–740 nm. is the one corresponding to tomatoes, fire-hydrants and the typical neck-scarfs, belts and berets of bull-runners in Iruñea (Pamplona). (12) is then, if not the most natural, the only available means to express the proposition Mary wants to express. Or imagine that Mary is with her grandpa Frank, a

philosopher and physicist, responsible for her perfect knowledge of the physics of colors as well as for her confinement in the black and white room. (9) can be quite an imprecise way of talking about colors, so the most communicatively apt way for her to talk with him can be (10), not (9).

The point is that (9) and (10) express the same proposition involving the perception of a certain color, even if they are associated with different motivating thoughts that account for their differing cognitive significance. The examples, so accounted, bear no impact on the metaphysics of colors or our conscious experience of them. The colors and our experience of them remain the same. It is in our linguistic practices and the thoughts that motivate them that the relevant difference lies, not in the ontology of colors or our experiences.

10.6. Linking A- and B- thoughts

Going further into the interpretation of Prior's challenge to B-theories as a knowledge argument, it is worth noticing that it involves an epistemic issue regarding the connection of different kinds of thoughts *via* pertinent identity relations. Let us turn now to explain this.

In the initial circumstances envisioned by Prior, with Arthur in a "perceptual dateless haze," the only available option to express himself is an A-utterance, (1), associated with an A-thought regarding the conclusion of the root canal. Utterance (2), which includes the date of the root canal, is clearly not an option, given that he lacks the relevant B-thought.

Or, better said, he lacks knowledge of a particular identity (13) that would allow him to link the two relevant A- and B-thoughts:

(13) Today is Friday, June 15, 1954.

This crucial role of identity thoughts like (13) is not restricted to knowledge about time, as has been duly noticed. Take a well-known example discussed by Perry (2002):

Ernest Mach tells of getting on the end of a bus and seeing a scruffy, unkempt bookish looking sort of person at the other end. He thought to himself:

(14) That man is a shabby pedagogue

In fact, Mach was seeing himself in a large mirror at the far end of the bus, of the sort conductors used to use to help keep track of things. He eventually realized this and thought to himself:

(15) I am that man

(16) I am a shabby pedagogue

Now consider Mach at the earlier time. Did Mach have self-knowledge? [...] it seems that he did. After all, he knew that a certain person was a shabby pedagogue. Furthermore, that person was, in fact,

him. The knower and the person known about were the same. But this case isn't really what we have in mind when we talk of self-knowledge. Self-knowledge is something Mach really only had when he got to step (16), when he would have used the word "I" to express what he knew. (Perry, 2002: 192. Examples renumbered)

Coming to know the identity expressed as (15), that is, recognizing the man in the mirror as himself, allows Mach to link a demonstrative thought like (14) with an indexical thought like (16), which will prompt him to take some action, say, put his shirt into his trousers or tidy up his bow tie.

A similar case can be built about our temporal reasoning. Imagine that Anna is planning to go on a trip to Iceland on September 18, 2015. That trip is important for her, she is really looking forward to it and she needs to make different arrangements to make it happen. Knowing that she is a very absent-minded person and fearing she might forget the date of the trip, she fills her house with post-its that read: "Trip to Iceland, September 18."

On the morning of September 18, however, Anna wakes up not knowing what day it is. She goes to the kitchen and sees one of her Iceland-post-its but, not knowing the truth of the identity statement saying that "September 18 is today," she goes on with her daily routines. Despite her best efforts, she fails to go to the airport in time and she sadly misses her trip.

Anna's case is similar to Mach's. In like manner, we could ask: did Anna know that her trip was to take place on the same day she was living? Well, in a sense, she did. She knew that the trip was to take place on September 18, 2015 and September 18 was, in fact, the day she was living in. But, as in Mach's case, this isn't what we have in

mind when we say that someone knows what day she is living in—and what happens on that day. Anna only gets to know (18) when she realizes (17) is the case:

(17) Today is September 18, 2015.

(18) Hence, the trip to Iceland is today.

Paraphrasing Perry, this is when she would have used the word “today” to express what she knew. What she needs, in other words, is to realize that she is looking at one object, the day she is living in, from two different angles. She needs to realize that her B-thought is about the same day as the day she is living in—today.

Taking a step further, establishing the analogy between Anna’s case and Arthur’s is also quite straightforward. Anna has a B-thought about the trip—she knows the date—but, given her ignorance of the relevant identity, has no A-thought about it, i.e. she doesn’t know the trip is today, or present. And, just as B-thoughts alone would have been insufficient to bring about Arthur’s thankfulness, B-thoughts alone are insufficient to bring about the appropriate actions by Anna. In Prior’s terms, the knowledge she needs to act is “something which it is impossible that any use of a tenseless copula with a date should convey” (Prior, 1959: 17).

10.7. Conclusion

So far, we have defended that utterances (1)-(3) express the same proposition, but that they are associated with different thoughts. That is, we reject Prior’s first assumption—utterances (1)-(3) express different propositions—and accept, with qualifications, the

second one—utterances (1)-(3) are associated with different thoughts. We have also asserted that this should not have any ontological bearing, that is, that Prior’s third assumption—the proposition related to utterance (1), and its associated thought, requires the existence of an A-property of events—should be rejected. We now elaborate a bit on this.

One can look at time from what we might call an absolutist or external perspective or a participant’s or internal perspective. The first is the perspective adopted by physicists and metaphysicians. It brings about “objective” or B-thoughts and it is usually expressed by dates. The second is our everyday perspective as agents immersed in time. It brings about essentially indexical or A-thoughts and it is usually expressed by indexicals such as “now,” “today,” or “present.”

The internal perspective on time and the resulting A-thoughts, which are closely tied to the agent’s cognitive capacities and limitations and to what happens or not in the agent’s surroundings, set some requirements and limitations to events in time, or, rather, to the way these events are presented to us. A-thoughts about the present are intimately related to events the agent can perceive, to what is happening in the agent’s surroundings.¹⁴ A-thoughts about the present include then whatever could be perceived by the agent, if she were in the appropriate spatial location. The movement of my fingers as I write is present, relative to me,¹⁵ and that generates some A-thoughts about it, which could be expressed as

¹⁴ Note that all animals have a special way of knowing what goes on “now, here, to me” even though they don’t have a language. The indexicals are connected to those primitive sorts of thoughts. See Perry (this volume: section 8.2.)

¹⁵ The use of the first-person singular pronoun is too expedient to abandon just because we happen to be two authors.

(19) My fingers are moving [now]

Notice, however, that I could also have A-thoughts about somebody moving her fingers in Buckingham Palace now, just because, if I were in Buckingham Palace right now, I would be able to perceive it. Being perceivable is thus the requisite to having an A-thought about the present.

The requisite for having A-thoughts about the past is being memorable. A-thoughts about the past involve all that could be remembered by the agent or, more broadly, all the events the agent thinks have happened but can no longer be perceived by her. Thus, I can think of the concert I attended in the Albert Hall last summer as past, that is, I can have an A-thought about it, because I can no longer perceive it. It is only a memory. The natural language expression of that thought would then be something like,

(20) The concert at the Albert Hall is over

Also, I can have A-thoughts about a concert played in the Albert Hall in, say, 1959, even though I wasn't born in 1959 and so it cannot be one of my memories. It is past because, had I been there I would be able to remember it now. Also because it is an event that has already happened, that I think it has happened, and one that I cannot perceive, no matter where I am.¹⁶

¹⁶ For simplicity's sake, we ignore the possibility of watching or listening to a recording of the concert. Also, we leave aside A-thoughts about the future.

Notice that this is completely independent of what time is, ontologically speaking. Ours is not an ontological proposal, but an epistemic and a linguistic one. Indeed, agent's time and physical time or time simpliciter don't have to coincide.¹⁷ It seems clear that being a memory is linked with being past, being predictable with being future and being perceivable with being present, but this is restricted to the internal perspective. From this perspective then, past, present and future are indeed real and fundamental elements without which no explanation of our thoughts, emotions and actions would be possible. But that carries no fundamental ontological weight. It is an epistemic thesis. It talks about how we, as agents, perceive and think about time, and about how events have different impact on us depending on their temporal relation with us. It is neutral on how or what time really is. What characterizes both A-thoughts and self-knowledge, we are claiming, is not what is thought but how it is thought. Prior's mistake, we think, was to confuse these two aspects.

Needless to say, this would need to be further developed to be a compelling account of temporal knowledge and temporal ontology. We believe, though, that even at this primitive level of elaboration, it presents a much more common-sense view on Arthur's thoughts, emotions and utterances, and in particular, to the differences in our ways to refer to time in language and represent it in thought. One clear advantage of our proposal over Prior's is that it keeps ontology simple. Or as simple as it can be. The same could be said of "new knowledge/old fact" types of answers to Jackson's

¹⁷ And indeed it seems that they don't. Take the case of the present. According to special relativity, there is no such thing as absolute simultaneity and thus that something is present can hardly be an objective fact. How to interpret special relativity is a complex issue, though, as is its relevance for philosophical debate. Prior, for instance, rejected this interpretation of special relativity. See Prior (1970) and Godfrey-Smith (1979).

knowledge argument. We haven't presented any definite ontological argument in defense of B-theories but hopefully we have outlined a way to resist one type of argument in favor of adding new entities to the world: A-properties. Prior's challenge, taken as an ontological argument, is a red herring.

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