

Safely Believing in B-Time

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Grover and Ford — colleagues — have known for ages that the meeting starts at noon today. Suddenly, at the same time, they both glance up to see their respective clocks reading '12:00', and realize: *The meeting is now!* Horrified, they jump up and rush out of their offices. Since they knew all along that the meeting was at 12.00, what new thing did Ford and Grover come to believe when they came to believe that the meeting was *now*?

They disagree about what they came to believe, in large part because they endorse different theories of time. They are both eternalists, believing in the existence of past and future things as well as present ones. They think that there are past dinosaurs and future space missions; furthermore, they agree that past dinosaurs are, in fact, dinosaurs; and future space missions are, in fact, space missions.¹

However, they disagree in one important respect. Grover is a 'moving spotlight theorist.' He believes in a metaphysically special property of PRESENTNESS that 'moves' from moment to moment, like a spotlight moving along a street.² Each moment gets its brief chance to bask in the glow of PRESENTNESS before it moves along to the next. According to Grover, when he came to believe that the meeting was now, he came to believe that the light of PRESENTNESS shone on the meeting. More precisely (if less picturesquely), he came to stand in the *believing* relation to the proposition that the time of the meeting — namely, 12:00 — instantiated the property of PRESENTNESS. This is a proposition that changes its truth-value. When PRESENTNESS shines on, say, 11:30, it is false; but when PRESENTNESS finally hits 12:00, it becomes true. When he believed this proposition at noon, his belief was correct because the proposition was (then) true.

Ford is a B-theorist. She thinks there is no objective fact of the matter about which time is PRESENT. There is simply a static four-dimensional block, filled with things located at different times. However, she believes that the contents of belief are not propositions but *properties* — properties of times, to be exact. These properties can be thought of as 'true' relative to times that instantiate them. According to Ford, when she realized that the meeting was now, she gained a belief with the content *being a time t such that the meeting is at t*. Since she had that belief at a time that instantiated this property, her belief was true.

¹They thus disagree with e.g. Meghan Sullivan (2012) and Daniel Deasy (2015), who hold that there are past dinosaurs and future space missions, but deny that past dinosaurs are dinosaurs and that future space missions are space missions.

²His view comes from Broad 1923: 59-60, who described but did not defend it. It has few contemporary defenders in precisely this form; Cameron (2015) and Deasy (2015) defend views with the same name, but importantly different content.

1 THE SAFETY ARGUMENT

A common objection to Grover's theory is that it dooms us to a kind of temporal ignorance.³ The idea is that when Grover believed, at noon, that the meeting was now, he believed a true proposition. As the spotlight of PRESENTNESS passed by, that proposition turned from true to false. But his case of believing didn't go away; it was still there, frozen in the past like a fly in amber. That very belief spends far, far more time being false than being true. Since it spends so much time being false, it probably shouldn't count as *knowledge*. The same goes for most other similar temporal beliefs, and so we have little (if any) temporal knowledge.

One way to spin the argument goes by way of a *safety* constraint on knowledge — driven by the thought that if one knows *P*, one couldn't have easily been in error about it. The idea is that, since the belief *will* be false, it is very easily mistaken, and so unsafe, and so not knowledge. Ross Cameron (2015: 39–43) considers, but does not endorse, this spin on the argument. Jeff Russell (2017) does endorse the argument with this spin. Here is Russell's version in schematic form. Whenever *S* is any agent that believes *P*, say that an agent *T* 'closely believes *P*' if *T* believes *P* in a way that makes it count as 'close' to *S*'s belief for considerations of safety. Then Russell's argument runs, with only minor cosmetic modification:

Russell's Safety Argument

- (1) **Safety.** If *S* knows *P*, then necessarily: If anyone closely believes *P*, then *P* is true.⁴
- (2) **Perpetuity.** If necessarily *A*, then it will always be the case that *A*.'
- (3) So, if *S* knows *P*, then it will always be the case that, if anyone closely believes *P*, then *P* is true. (From 1, 2)
- (4) **Reflexivity.** *S* closely believes *P*.
- (5) **Permanent Belief.** If someone closely believes *P*, then it will always be the case that someone closely believes *P*.
- (6) **Change.** It won't always be the case *P* is true.
- (7) So, it won't always be the case that, if anyone closely believes *P*, then *P* is true. (From 4–6)
- (8) So *S* doesn't know *P*. (From 3, 7)

Russell thinks this argument makes trouble for Grover; Cameron argues that it does not. I won't take any stand on that here. But according to Russell, it *also* makes problems for Ford. He writes:

³Cf. Braddon-Mitchell 2004, Merricks 2006, Bourne 2002 and Heathwood 2005.

⁴Not 'knows that *P*', but just 'knows *P*' — *P* is not a sentential variable for creating that-clauses. It ranges over contents directly.

[T]emporally *self-locating* beliefs [such as Ford’s belief that the meeting is now] are in just as much danger as beliefs about the moving spotlight — or so I will argue. The argument is straightforward: this “hybrid eternalism” endorses the premises of the safety argument, just as much as [Grover’s] does. The difference is just that in the hybrid view’s case, the object of belief that figures in the argument is a “self-locating proposition”, rather than a proposition about the “illuminated” present. (164)

If that is right — if Ford really does endorse the premises of this argument — then she is in trouble indeed.

2 CLARIFICATIONS

Ford isn’t sure she does endorse the premises of Russell’s Safety Argument. Before she thinks about that, though, she wants to clear up a few matters about her view. That view is inspired by the Chisholm/Lewis view about self-locating *de se* beliefs.⁵ According to Chisholm and Lewis, the contents of *de se* beliefs are properties of individuals, and to believe them is to self-ascribe them. Since I believe *de se* of myself that I am a philosopher, I ascribe the property *being a philosopher* to myself. Ford thinks, analogously, that the contents of tensed beliefs are properties of times; when Ford believes that the meeting is *now*, she ascribes the property *being the time of the meeting* to the moment of the belief.

Russell does a few things with Ford’s view that she is not entirely comfortable with. The first is that he talks about the *truth* of these tensed contents. But Ford thinks these contents are properties, and that properties aren’t the sort of things that can be true or false. Consider again the *de se* case. The property of *being a philosopher* isn’t the sort of thing that could be true or false; it can only be instantiated or uninstantiated. Now, certain cases of believing this property could be correct or incorrect; if it is believed by a philosopher, that case of belief is correct, and if it is believed by a non-philosopher, that case is incorrect. A case of *de se* belief is correct if its content is instantiated by its believer. But she would rather not call this kind of correctness ‘truth’. And what goes for *de se* contents goes for tensed ones as well. When a tensed belief is instantiated by its time, she would like to call that belief *correct* rather than *true*, because again, properties aren’t the sort of things that can be true.

The first complaint is terminological; the second is more substantive. Russell supposes that ‘these “centered propositions” are expressed by ordinary sentences’ (166). But Ford doesn’t think that at all. Friends of the Chisholm/Lewis view of *de se* contents typically don’t think that when I say ‘I am a philosopher’ I express the property of being a philosopher, but rather the singular proposition that Jason is a philosopher. By the same token, Ford thinks that ‘The meeting

⁵Chisholm 1981 and Lewis 1979.

is now,' uttered at noon, expresses no property but the proposition that the meeting is at noon.

Neither of these suppositions shows up as a premise in Russell's argument, and Ford isn't making these points by way of refutation.⁶ But she thinks they're important nevertheless. By calling the correctness of perspectival beliefs 'true', and by holding that the standard of correctness for these beliefs is the same as for assertoric sentences, Russell makes it seem as though Ford has a non-standard view of *truth*. But she doesn't. Her views about truth are entirely orthodox: it is a monadic, unchanging property of propositions. What she has instead is a non-standard view of *content*.⁷

3 RELATIVIZING AND DERELATIVIZING

Russell's Safety Argument's premises are written in a tensed language. But Ford thinks that all tensed language needs to be reduced to tenseless language. On the usual reduction, tensed predications gain a relativization to time, and tense operators such as WILL, WAS, and ALWAYS quantify over times and bind those relativizations. When Ford says that sometimes she is standing but sometimes she is sitting, she understands herself to be saying that there are some times t such that she stands relative to t , and that there are some times t' such that she sits relative to t' .

A complication looms. Ford's B-theoretic reductions involve relativizing predicates. But she is well aware that there are different metaphysical accounts of what this relativization amounts to. Some, such as the so-called 'worm theorists,' think that persisting objects are four-dimensional worms that have short-lived segments. Then 'At t , Ford is sitting' is further analyzed as 'Ford has a short-lived segment S located entirely at t and S is sitting simpliciter.' The so-called 'stage theory' complicates matters even further.⁸ But she could also think that persisting objects don't have short-lived parts, and that nothing ever sits simpliciter, holding instead that relativized predication should be analyzed in

⁶The second point, however, makes trouble for certain attempts to reformulate the argument. If (for example) Safety had been written not with a variable ranging over contents but schematically, as 'If S believes that ϕ , then necessarily, if anyone closely believes that ϕ , then ϕ is true,' then the argument would have to take account of Ford's story about belief ascriptions. That story is complicated by the fact that the complements of belief- (and knowledge-) ascriptions are sentences, and Ford doesn't think these express mental contents. Better, then, to sidestep these issues and focus on the argument as it is formulated.

⁷This might explain why Russell cites Hawthorne and Cappelen 2009 as providing some reasons to think that Ford's view isn't actually any different than Grover's. Hawthorne and Cappelen's book is primarily concerned with the sort of relativism about truth defended by e.g. John MacFarlane (2014), which is thoroughgoing and infects assertions as much as belief. But Ford can agree with Hawthorne and Cappelen over MacFarlane, so she suspects Russell is attributing more to her than she is committed to.

⁸See e.g. Lewis 1976 on the worm theory and Hawley 2001 and Sider 2001 on the stage theory.

some other way, or not at all.⁹ She reckons that if Russell’s argument is good it ought to be good against any version of the B-theory, and so will remain neutral about the analysis of relativized predication here.

To see if she really does endorse the argument’s premises, Ford will translate them into her tenseless language. As noted, she doesn’t think that sentences ordinarily express properties of times. But she understands that Russell wants to know whether she believes them as potentially tensed contents. So she will follow his instruction to think of the premises as properties of times. Then the argument is valid if any time that instantiates all the premises must also instantiate the conclusion. She will express these properties as sentences open in at most one variable — she’ll reserve ‘*n*’ for this job — with the understanding that a time instantiates the property exactly when it satisfies the open sentence. (Formulas with no open variables will be thought of as properties had by all times if had by any.)

Ford notes that, if she simply took her standard translations of the premises, she would end up with the following argument:

Ford’s First-pass Safety Argument

- (1¹) **Safety.** If *S* knows *P* at *n*, then necessarily: If anyone closely believes *P* at *n*, then *P* is true at *n*.
- (2¹) **Perpetuity.** If necessarily *A-at-n*, then for all times *t*, *A-at-t*.’
- (3¹) So, if *S* knows *P* at *n*, then for all times *t*, if anyone closely believes *P* at *t*, then *P* is true at *t*. (From 1¹, 2¹)
- (4¹) **Reflexivity.** *S* closely believes *P* at *n*.
- (5¹) **Permanent Belief.** If someone closely believes *P* at *n*, then for every time *t*, someone closely believes *P* at *t*.
- (6¹) **Change.** It’s not the case that, for all times *t*, *P* is true at *t*.
- (7¹) So, it’s not the case that, for all times *t*, if anyone closely believes *P* at *t*, then *P* is true at *t*. (From 4¹–6¹)
- (8¹) So *S* doesn’t know *P* at *n*. (From 3¹, 7¹)

(Ford is a little unhappy to be using ‘true at *n*’ instead of ‘correct at *n*’, but she’s willing to let it slide.) This argument is valid: Any time that instantiates the premises must also instantiate the conclusion. But it’s not sound. Premise (5¹) is pretty clearly false. Someone closely believes right now that iPhones are currently too expensive. but there are plenty of times *t* relative to which nobody believes anything at all about iPhones.

That’s okay, though; having done the first pass translation, Ford can see this wasn’t what Russell intended. Russell recognizes that she will relativize to times. He writes,

⁹See e.g. Haslanger 1989, Parsons 2000, and van Inwagen 1990.

Ford believes in roaring dinosaurs. But that isn't to say that Ford believes that there are dinosaurs that roar with respect to the 21st century.... Ford believes that there are dinosaurs that roar with respect to past times. (165)

But he goes on to say that he wants to consider a kind of 'derelativized' belief predicate that we can recognize as holding no matter what time we are at. In his argument, he says, he wants us to

...keep our attention on monadic properties like being a dinosaur (in relation to any time) rather than a time-relation of roaring. (165)

Having read that, Ford understands Russell as wanting to replace each 'believes at t ' in her argument with 'believes at some time or other', existentially binding the temporal index. This would then render the argument as:

Ford's Second-pass Safety Argument

- (1²) **Safety.** If S knows P at n , then necessarily: If anyone closely believes P at some time, then P is true at n .
- (2²) **Perpetuity.** If necessarily A -at- n , then for all times t , A -at- t .'
- (3²) So, if S knows P at n , then for all times t , if anyone closely believes P at some time, then P is true at t . (From 1², 2²)
- (4²) **Reflexivity.** S closely believes P at n .
- (5²) **Permanent Belief.** If someone closely believes P at some time, then for every time t , someone closely believes P at some time.
- (6²) **Change.** It's not the case that, for all times t , P is true at t .
- (7²) So, it's not the case that, for all times t , if anyone closely believes P at some time, then P is true at t . (From 4²-6²)
- (8²) So S doesn't know P at n . (From 3², 7²)

Ford isn't sure if she should have also de-relativized the knowledge predications, but she doubts it will much matter. The resulting argument is valid, and (5²) seems unimpeachable. (Because vacuous.) She suspects this is close enough to the argument Russell had in mind.

4 SAFETY AND PERSPECTIVAL TRUTH

Ford, however, doesn't like Safety as formulated. There's a less important reason and a more important reason.

The less important reason is that she doesn't like the way the modal operator and 'at n ' interact. Suppose that we live in a cyclical world of recurring epochs: There was a big bang, some stuff happened, and then a big crunch. That's the

first epoch. Then there was another big bang, more stuff, and a crunch; that's the second epoch. And so on. Suppose what happens in the second epoch perfectly duplicates what happened in the first epoch. Now consider Joey at a time n during the second epoch. Joey is involved in a perfectly ordinary case of mathematical reasoning, and ends up concluding that $2+2=4$. (More precisely, he ends up believing the property *being a time such that $2+2=4$* , which is had by every time.) It seems that there should be no bar to Joey's belief counting as knowledge. But the world could have ended after the first crunch, and never had a second epoch. If that had happened, the time n wouldn't even have existed. But an intrinsic duplicate of Joey—the one from the first epoch—would still have existed, and presumably his case of belief would have been close to Joey's. So it would have been possible that someone closely believed that $2+2=4$ (at some time or other) but the content of this belief was not true at n , for the simple reason that n didn't exist. Thus Joey's ordinary mathematical belief can't count as knowledge. That seems like the wrong result.¹⁰

(This sort of worry generalizes. For instance, maybe the world could have been exactly as it is, except that none of the actual times exist and different times existed instead. (Unlike the Joey example, this requires taking a haecceitistic view about times.) In this case, nobody would ever know anything, because for every belief at any time n there would be a possible close belief that wasn't true at n simply because n didn't exist.)

So that seems problematic, but Ford doesn't want to press this issue. She suspects there may be some clever workaround anyway.¹¹ The bigger issue, for her, is that—while she is bang alongside (1¹)—she thinks (1²) smuggles in a mistaken conception of epistemic error. Now, Russell never explicitly argues for (1²); all he says is that the motivations for the tensed (1) 'carry over directly without change' (168). Since Ford thinks that (1) is ambiguous between (1¹) and (1²), she isn't quite sure how to interpret this. But Russell does give a sort of *indirect* argument for (1²). Considering that argument, and Ford's response to it, will help us understand her rejection of (1²).

Here is that indirect argument:

Ford holds that past people have beliefs which are just as genuine as those of present people. This includes centered beliefs. So there is Caesar in the past, crossing the Rubicon, and believing that a certain time t_0 in 49BC is *present*. . . . Caesar has a centered belief the object of which is the property expressed by ' t_0 is present', the property that applies to t_0 and nothing else. Call this property P . Ford is theorizing [nowadays], not at t_0 (which was in 49BC), and Ford knows this perfectly well. So in contrast to Caesar, Ford accepts "It is not the case that t_0 is present" (which expresses the property that applies to

¹⁰Notice this issue is independent of whether the antecedent of (1²) was ' S knows P at n ' or ' S knows P at some time or other', because the issue comes from the free ' n ' in the consequent.

¹¹The issue reminds her a bit of the 'nonexistence problem' for the Chisholm/Lewis theory (Markie 1984, Nolan 2007), and can perhaps be solved as in Turner 2010.

every time but t_0). So Ford accepts “Caesar believes P , and P is not true”. In short, according to Ford, Caesar believes something that isn’t true. And Caesar is hardly unique in this respect. . . . So the past and future are strewn with error. (167–168)

It takes a bit of work to turn this into a formal argument for (1²), but it’s easy to see the intuitive thought. (It’s also helpful to think of these considerations as supporting (3²) directly, without a detour through Perpetuity.) The idea is that Ford, here in contemporary times, can see both that Caesar believes that P and that P is false. (False *simpliciter*, since Ford can see that P doesn’t apply to her time.) That’s error. So Caesar’s belief wasn’t safe from error; in fact, it was doomed to error shortly after being formed! So the only way a belief can be safe from error is if it is going to continue to be true forever after being formed.

Ford, however, rejects the crucial inference from ‘Caesar believes that P and P is false’ to ‘Caesar’s belief is in error’. She thinks that the move is attractive only if we discount the intended analogy between her tensed contents and the Chisholm/Lewis theory of *de se* contents. After all, we could offer a parody argument that no *de se* belief can ever count as knowledge.¹² Suppose I am sitting and Ford is standing; I believe *de se* of myself that I am sitting, which is to say I believe the property *sitting*. Ford of course believes the property *not sitting*. Let Q be the property *sitting*. Then Ford can look at me and think (correctly) to herself, ‘Jason believes Q , but Q is not true. So Jason is in error.’

But that would of course be a bizarre thing for her to think, and go against the entire *raison d’être* of the Chisholm/Lewis view. The point is that *de se* contents are deeply perspectival, and the epistemic standards of correctness an agent has to meet will factor in this perspectival nature. More plainly, Jason should believe what Jason instantiates and Ford should believe what Ford instantiates. Jason has no reason to apportion his *de se* beliefs to the properties Ford instantiates, and no sensible epistemology should act as though he does. Jason is only in error if he believes things that *he* fails to instantiate, and Ford should be able to recognize that, even from the outside. Error is a mismatch between one’s beliefs and what one instantiates — not what one believes and what *someone else* instantiates.

Ford intends the analogy to be tight. So she thinks that tensed contents are deeply perspectival, and the epistemic standards of correctness an agent has to meet will factor in this perspectival nature. More plainly, she thinks Caesar should believe what Caesar’s time instantiates and Ford should believe what Ford’s time instantiates.¹³ Caesar has no reason to apportion his tensed beliefs to the properties Ford’s time instantiates, and no sensible epistemology should act as though he does. Caesar is only in error if he believes things that *his time* fails to instantiate, and Ford should be able to recognize that, even from her

¹²More carefully: No *de se* belief Q can count as knowledge if Q is a property that does not apply to all thinkers.

¹³Even more precisely: Caesar should believe the properties instantiated by the time of his belief, and Ford should believe the properties instantiated by the time of her belief.

different time. Error is a mismatch between one's beliefs and what one's time instantiates — not what one believes and what *someone else's* time instantiates.

From this perspective (1¹)—and, by extension, (3¹)—look like sensible Safety constraints on knowledge, but (1²)—and, by extension, (3²)—do not. It is perhaps easiest to see the problem with (3²), but if we take on board the idea that a tensed belief is in error only when it fails to be instantiated by its own time, we can see why Ford won't like (1²) either. Ford thinks, at noon, that she in fact *knows* the property *being the time of the meeting*. Now consider a possibility in which the meeting was instead at one, she had precisely the same reasons for thinking that the meeting was at one as she actually does for thinking the meeting is at noon, and so on. Unless we render Safety entirely toothless, we should be able to tell the story so that this is a case of close belief in *being the time of the meeting*. So possibly someone (namely, a possible Ford) closely believes *being the time of the meeting* and it is not true at noon (but instead at one, the time at which it is held). Ford will not think this a good reason to deny herself knowledge, although (1²) would.¹⁴

Ford suspects that Russell is willing to attribute error to Caesar only because he doesn't take the intended analogy with the *de se* seriously. She suspects that Russell thinks that truth—truth *simpliciter*—is special, even more special than truth-at-a-time, and so Caesar has an epistemic obligation to try to make his beliefs match it. That is part of why, early on, Ford wanted to stress that what Russell calls 'truth-at-a-time' isn't really *truth* at all. It is part of a standard of correctness for mental contents, but it is a standard that she wants to divorce from truth. By calling it 'truth' we can make it seem as though people have epistemic obligations towards it that they don't in fact have.

Why would truth and 'correctness' come apart? As Ford sees it, mental states have the job of helping us navigate our environment. Since we occupy a place in space and time, that is a perspectival job. So perspectival mental states are a useful theoretical device. Correctness of these states is a status that tells us whether they are doing their job properly. Truth, on the other hand, has the job of helping us coordinate with each other. Since that involves coordinating *across* perspectives (both spatial and temporal), we want one external, eternal standard for us all. Epistemology is concerned with doing *both* tasks right. So, according to Ford, when we formulate epistemic principles we need to do it in a way that furthers both these ends. This leads her to affirm (1¹) and deny (1²).

Of course, Ford's view can be rejected; Russell, who approvingly cites (on p. 169) Ofra Magidor's (2015) complaint that the Chisholm/Lewis view is unmotivated, may be one such rejector. But it's one thing to reject a view, and another to saddle it with alien epistemic commitments. As far as she can see, Ford has no reason to accept (1²) as anything like a sensible Safety constraint on tensed

¹⁴Russell makes a big deal of Caesar's past belief being just as rich and real and belief-y as any present beliefs. But note that Ford's complaint about (1²) doesn't rely on thinking that past beliefs are somehow shadowy and lesser-than. It has everything to do with extending a sensible account of error for *de se* attitudes to tensed attitudes.

knowledge, and so nothing to fear from Russell's Safety Argument.¹⁵

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