



Acting for reasons and the metaphysics of time

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Abstract

This paper concerns acting for reasons and how this can inform debates about the metaphysics of time. Storrs-Fox (2021) has argued against the A-theory of time on the grounds that it cannot adequately account for the explanation of actions. Storrs-Fox assumes that explanation is forever. He argues that this is incompatible with the A-theory because the reasons people act for are the explanantia of their actions, though according to the A-theory these reasons, that is facts, often do not obtain forever and therefore nor do the explanations. I will argue that many particular explanatory relations are not forever because reasons for actions must often fade as a person cannot now have a reason to do something at an earlier time. Generally, people cannot affect the past and therefore cannot have rational obligations to do so. Therefore, the A-theory does not face the problem Storrs-Fox suggests. In fact, the A-theory says what ought to be said and accounts for the wider phenomena of responding to reasons better than the B-theory. It is often the case that an agent acts rationally only if that agent acts on the basis of a present tensed belief. This implies that present tensed beliefs capture facts that no tenseless beliefs do, because the rationality of an action is determined by the reasons an agent acts for, not the beliefs through which the agent is aware of these. However, the B-theory, unlike the A-theory, denies there are any facts thus uniquely captured by present tensed beliefs.

Keywords Reasons · Time · A-theory · B-theory

In a recent paper Storrs-Fox (2021) has argued against the A-theory of time on the grounds that it cannot adequately account for the explanation of actions. Storrs-Fox's argument makes use of the idea that explanation is forever. He argues that this is

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incompatible with the A-theory because the reasons people act for are the explanantia of their actions, though according to the A-theory, these reasons, that is facts, often do not obtain forever and therefore nor do the explanations. I will argue that particular explanatory relations clearly are not forever because reasons for actions must often fade as a person cannot now have a reason to do something at an earlier time. Generally, people cannot affect the past and therefore cannot have rational obligations to do so. This means that anyone who, on the basis of an instance of acting for a reason, infers that at later times that reason is still an explanans is making an inference that involves two gaps: because that particular explanatory relation of acting for a reason does not occur at those later times and because that particular reason does not occur at those later times. This shows that the A-theorist can coherently refuse to accept that inference and hence deny that explanation is forever, thus avoiding Storrs-Fox's problem. In fact, the A-theory says what ought to be said and arguably accounts for the wider phenomena of action explanation better than the B-theory.

In the first section of this paper I will outline Storrs-Fox's argument against the A-theory which focuses on explaining an action of Anna's. In Sects. 2 and 3 I will highlight two particular explanatory relations that arise in Anna's case and show that neither supports Storrs-Fox's claim that explanation by Anna's reason is forever. In Sect. 4 I will respond to a semantic concern Storrs-Fox raises arguing it is more of a problem for the B-theory than A-theory. In Sect. 5 I will point out that there is one sense in which explanation is forever, explanations at one time give rise to different explanations at later times, though this does not mean reasons/explanantia must exist forever and so is not problem for the A-theory. Finally, in Sect. 6, I will outline an argument for thinking that the A-theory is in fact better placed than the B-theory to account for the explanation of actions as it is better placed to account for the rational requirement that agents have tensed beliefs when acting. It is often the case that an agent acts rationally only if that agent acts on the basis of a present tensed belief. This implies that present tensed beliefs capture facts that no tenseless beliefs do, because the rationality of an action is determined solely by the reasons, that is facts, an agent acts for, not the beliefs through which the agent is aware of these. However, the B-theory, unlike the A-theory, denies there are any facts thus uniquely captured by present tensed beliefs.

1 Storrs-Fox's argument

Storrs-Fox gives his argument as an argument against the A-theory of time, which he is understanding as a theory committed to two points, factual-futurism and propositional temporalism. According to factual futurism there are facts that obtain but that at some point will not obtain (temporary facts). According to propositional temporalism, there are propositions that are true but not always true (temporary propositions). For example, it is currently sunny so according to this A-theory the fact that it is sunny currently obtains and the proposition that it is sunny is currently true, but later, when the clouds roll in, the fact will no longer obtain and the proposition will no longer be true.

The A-theory is contrasted with the B-theory which involves the denial of both factual futurism and propositional temporalism. According to this B-theory, there will not be a temporary fact of it being sunny now, though, given it is now noon on the 20th of May 2022, there will be a permanent fact of it being sunny at noon on the 20th of May 2022. Likewise, although there will not be the temporary proposition of it being sunny now, there will be the permanently true proposition that it is sunny at noon on the 20th of May 2022. According to this B-theory, our tensed utterances will express such unchanging facts and propositions, not, as one might initially think, temporary facts or propositions.¹

Storrs-Fox gives his argument by considering an example of an action by Anna. The example is broadly as follows. On Monday² it is raining and Anna, on her way to a meeting, hails a taxi. Her friend Bernard truthfully utters S1.

S1, “Anna’s reason for hailing a taxi is that it is raining”.

On Tuesday, it is no longer raining and Bernard, thinking back, utters S2 and subsequently S3 and S4.

S2, “Anna’s reason for hailing the taxi was that it was raining”.

S3, “If Anna’s reason for hailing the taxi was that it was raining, then the fact that it was raining explains why she was hailing the taxi”.

S4, “Therefore, the fact that it was raining explains why Anna was hailing the taxi”.

Storrs-Fox assumes, as I agree, that the reasons people act for, the reasons that motivate them to act, are facts. In this instance, the reason/fact that Anna is motivated by is supposed to be picked out by the clause ‘it is raining’ in S1. According to the A-theory, this clause in S1 will pick out a temporary fact, a fact that no longer obtains on Tuesday. Storrs-Fox refers to this as fact R.

Storrs-Fox suggests that on Tuesday Bernard ought to be able to refer to R using the clause ‘it was raining’ in S2 and hence in S3 and S4. He concludes from this, that if we accept S3 and S4 as true, then on Tuesday R explains why Anna was hailing the taxi. However, Storrs-Fox argues that explanation is factive, by which he means that if x explains y , then x and y must obtain. Therefore, R must obtain on Tuesday because it is then an explanans for the explanation picked out by S4, an explanation that obtains on Tuesday. Therefore, the A-theory must be wrong to say R does not obtain on Tuesday and, more generally, it must be wrong to take facts like R to be temporary because cases like Anna’s are common and various.

On the other hand, the B-theory will not take a temporary fact like R to be Anna’s reason. Instead, it will take Anna’s reason to be a fact such as the fact that it rains on

¹ As Storrs-Fox notes, not all proponents in the debate adopt this terminology or presentation of their position, but, thus described, A-theorists include e.g. Cameron (2015) and Deasy (2015), and B-theorists include e.g. Mellor (1998) and Maclaurin and Dyke (2002).

² Storrs-Fox does not actually speak of days or dates, merely a time and a later time. My argument only requires a time and a later time, but I include the days for explanatory ease.

Monday, 12th of July, 2021. Let us refer to this fact as RB. RB will always obtain according to the B-theory and so can be both Anna's reason on Monday and the explanans on Tuesday. The B-theory therefore does not face the same problem and is hence indirectly supported by Storrs-Fox's argument.

2 The motivation explanatory relation

Storrs-Fox's argument seems to commit the A-theory to a contradiction: R both does and does not obtain on Tuesday. It does not because it is a temporary fact and it does because on Tuesday it is an explanans in an explanatory relation that obtains on Tuesday.

I suggest that the A-theory ought to respond to this argument by denying that R is an explanans that obtains on Tuesday. Crucially, R needn't be an explanans that obtains on Tuesday, because S4 does not capture an explanation with R as explanans that obtains on Tuesday.

Storrs-Fox's argument takes reasons to be facts. In order to clarify this point and my reply, it is helpful to get a little more clear about reasons. Reasons are commonly distinguished into two kinds, normative reasons and motivating reasons. Normative reasons are reasons that promote or justify an action, they are considerations that stand in favour of acting. Motivating reasons are reasons that agents act for, they are reasons that motivate actions.³ To talk of two kinds of reasons here can be potentially misleading, insofar as it is not being suggested that normative reasons are different kinds of entities from motivating reasons. Rather, both kinds of reasons can be taken to be facts.⁴ The difference concerns the different roles that a fact can play. If a fact justifies an action, then it is a normative reason for that action. If someone becomes aware of that reason and hence becomes motivated by it to perform the action, then the fact is also a motivating reason for the action. Often normative reasons and motivating reasons will coincide in this way. Though, the two can come apart, for example, if a fact is a normative reason to perform an action, but an agent is not aware of it and so not motivated by it to act (the fact that my toast is burning is a normative reason for me to turn off the toaster, but unaware of that fact, I will not perform that act and the fact will not be a motivating reason).

Now, Storrs-Fox's argument is that R is a motivating reason for Anna to act to hail a taxi on Monday. Anna is motivated by R to hail a taxi on Monday. Plausibly, however, R is also a normative reason for Anna to hail a taxi on Monday. In fact, plausibly it is in part because R is a normative reason for the action that it motivates Anna to perform the action: it is a motivating reason in part because it is a normative reason.

Given R motivates Anna's action on Monday, it is plausible to say that R explains Anna's action on Monday. Crucially, the explanatory relation here appears to be realised by the motivation relation: the relation of motivation is an explanatory rela-

³ Cf. e.g. Alvarez (2009) for this distinction between kinds of reasons.

⁴ It is currently widely accepted that normative reasons are facts. Some who adopt this position argue that motivating reasons belong to a different ontological kind, cf. e.g. Audi (2001). Though, cf. e.g. Dancy (2000) and Alvarez (2010) for arguments to the effect that both kinds of reasons are facts.

tion. (I will refer to this motivation relation as *M*. *M* is a relation that holds between the fact/reason *R*, and Anna's action.)⁵

Turning to Tuesday, it is important to note something. Anna cannot perform the action talked of earlier in this section on Tuesday. That is, on Tuesday Anna cannot perform the action of hailing a taxi on Monday.⁶ Because Anna cannot perform that action on Tuesday, Anna also cannot on Tuesday have a normative reason to perform that action. One cannot have a normative reason to perform an action that it is impossible for one to perform.⁷ Following from this, it is also implausible that Anna would be motivated on Tuesday to perform the action of hailing a taxi on Monday.⁸ Thus, on Tuesday Anna also does not have a motivating reason to perform the action.

Thus, it is clear that whilst relation *M* occurs on Monday, it does not occur on Tuesday. This shows that there is an important sense in which explanation is not forever: a particular explanatory relation can occur at one time and not others.

Let us now return to Bernard and his utterances. *M*, our motivating/explanatory relation, holds on Monday. So, *S1* is plausibly true. Bernard would also speak the truth if on Monday he uttered *S1**.

*S1**, "That it is raining explains Anna's hailing a taxi".

M does not occur on Tuesday. So, what should we make of *S2*? Well, *S2* does not seem to say that *M* occurs on Tuesday. *S2* is in the past tense, the implication of it is that at a time earlier than Tuesday Anna was motivated by a reason. *S2* is hence true.

However, *S3* and *S4* occur on Tuesday and speak of explanation in the present tense. So far, we have been given no explicit reason for taking *S3* and *S4* to be true: all we have established is that an explanatory relation, *M*, occurs on Monday and not Tuesday. Nevertheless, if Bernard had made two closely related utterances, *S3** and *S4** on Tuesday, these would have been true.

*S3**, "If Anna's reason for hailing the taxi was that it was raining, then the fact that it was raining *explained* why she was hailing the taxi".

*S4**, "Therefore, the fact that it was raining *explained* why Anna was hailing the taxi".

*S3** and *S4** concern an explanatory relation that obtains on Monday, not Tuesday. (They are utterances concerning an explanation that is in the past on Tuesday.) Because the truth of *S3** and *S4** does not commit us to there being an explanatory relation that obtains on Tuesday, it also does not commit us to the explanans of this

⁵ Note, Storrs-Fox specifically says he is concerned with explanation as a relation between entities like facts, not as some sort of linguistic practice (2021: 4246). We might say his concern is with metaphysical as opposed to epistemological explanation. *M* seems to be such a metaphysically explanatory relation.

⁶ Even if backwards time travel and effecting the past are possible, which is questionable (cf. e.g. Le Poidevin (2003: ch. 10)), Anna is supposed to be an everyday individual in an everyday circumstance and as such clearly it is not possible for her to effect the past.

⁷ This point is linked to the well known principle that ought implies can. For a defence of this point, cf. e.g. Streumer (2007).

⁸ There may be unusual circumstances in which an agent is motivated to try to do something it is impossible for them to do, but Anna does not appear to be in such an unusual circumstance.

relation obtaining on Tuesday. Hence, we are also not committed by them to taking R to obtain on Tuesday, pace Storrs-Fox.

A careful consideration of Anna's acting for a reason gives us a ground for thinking R obtains on Monday but not on Tuesday, because the motivation relation it is a relatum of is an explanatory relation that occurs on Monday but not Tuesday.

Storrs-Fox does not anticipate this argument, however, he does anticipate the kind of response it supports, that is, that on Tuesday it is not true to say that R explains Anna's action, only that it explained it (2021: 4249). Storrs-Fox provides a positive and a negative comment on such a response. The positive comment, as related to the specifics of my argument, is that the close link between S3* and S4* on the one hand, and S3 and S4 on the other, provides an error theory for why one might have mistakenly thought S3 and S4 accurately portray R as an explanans on Tuesday. I accept and would also wish to press this positive point. After giving the positive comment, Storrs-Fox goes on to give the negative one.

*“Of course, there are other truths in the vicinity—most notably, that if Anna's reason for hailing the taxi was R, then R **explained** (at the time of action) why she was hailing the taxi. But the futurist also needs to say something about what later **explains** (at the time of (S3)'s utterance) why Anna was hailing the taxi. It would be very odd if there were no longer any explanation of her action, or if the explanation no longer includes facts about the rain.”* (2021: 4249)

Thus, Storrs-Fox is supposing that it would be odd if on Tuesday there were no longer an explanation of Anna's action. The challenge to a reply like mine is that it is stuck with this oddness. However, I would deny that there is in fact anything odd here at all. It might be odd if Anna's action was devoid of explanation, but that is not the case. The action obtained on Monday, the explanans/motivating reason obtained on Monday, and the explanatory/motivating relation obtained on Monday. Anna's action was explained. On Tuesday, however, the reason no longer obtains, the action no longer obtains, the motivation/explanatory relation no longer obtains.⁹

Rather, I have argued that it would be odd to suppose that the explanation does obtain on Tuesday. Anna can't perform the action on Tuesday, and so cannot have a normative reason to perform it on Tuesday, and so does not have a motivation or motivational reason to perform it on Tuesday. Therefore, it would be odd to take there to be an explanation on Tuesday on the basis of a consideration of Anna's motivation. If there is an oddity here, it is one that is faced by Storrs-Fox, not the A-theorist.

Before closing this section we should note that Storrs-Fox does provide an argument to try to further motivate the idea that it would be odd to deny that Anna's action is explained on Tuesday. He invites us to consider that Anna's phone was stolen whilst she was hailing the taxi and that the thief later put the phone on his dresser where it remained on Tuesday. Storrs-Fox says the following:

⁹ This response thus accepts that explanation is factive in an A-theoretic sense: if x previously explained y , then x previously obtained; if x currently explains y , then x currently obtains; and if x will subsequently explain y , then x will subsequently obtain. (Note, Storrs-Fox's arguments to establish that explanation is factive, are compatible with factivity understood in this way.)

“It seems that the fact that it was raining explains ... why Anna’s phone is later on the thief’s dresser. And the fact that it was raining explains the phone’s position because it explains the fact that Anna was hailing the taxi ... It is hard to see how the fact that it was raining could explain (at the later time) why the phone is on the thief’s dresser, unless that fact explains (at the later time) why Anna was hailing the taxi.” (2021: 4249)

In the following section I will account for this case in a way that makes it clear that it is not odd to deny that R is an explanans on Tuesday.

3 The historical explanatory relation

Storrs-Fox’s motivation for speaking of explanation in Anna’s case seems to fundamentally lie with the fact that Anna’s action was motivated by a reason. He speaks of explanation because of the motivating role of this reason. However, we have just seen that a careful examination of this motivation in fact gives us no direct ground for thinking that Anna’s reason does any explaining at a later time. The reason and the explanatory relation that is the motivation relation do not occur on Tuesday. Nevertheless, one might wonder if there are distinct explanatory relations that occur on Tuesday because the motivation relation occurred on Monday. I will now move to considering such a suggestion.

Whilst pressing the idea that there is explanation obtaining on Tuesday, Storrs-Fox says the following. *“At the time of Bernard’s utterances of (S2) and (S3), R explains why Anna was (earlier) hailing the taxi.” (2021: 4245).*¹⁰ One point of note here, is that what is being proposed as explanandum is the fact, on Tuesday, that Anna was earlier hailing a taxi. This explanandum is distinct from Anna’s action. The explanandum here concerns something about Tuesday, namely that Anna was hailing a taxi earlier than then. We might put a more clear A-theory twist on this by describing it as a fact of the form ‘Anna was, earlier than now [Tuesday], hailing a taxi’. I will refer to this explanandum as AP and I will refer to the explanandum of M as AN.

Given AP concerns Tuesday I suggest that it is appropriate to think that the explanans for this explanandum also concerns Tuesday. In particular, I propose the fact that it was raining earlier than then: Anna is hailing earlier than Tuesday because it is raining earlier than Tuesday. Or, to put an A-theory twist on this, I propose the explanans is a fact of the form ‘it was, earlier than now [Tuesday], raining’. This is the sort of temporary fact that an A-theorist might expect to be picked out by an utterance, on Tuesday, of ‘it was raining’. I will refer to this fact as R*.

This explanatory relation that occurs on Tuesday thus plausibly involves facts about the past, and hence I will refer to it as a historical relation, relation H. H is a historical relation that is an explanatory relation and that occurs on Tuesday.

¹⁰ Note also in the third line of the quotation given two above and in the second and third lines of the quotation given one above Storrs-Fox speaks about explaining on Tuesday why Anna was hailing a taxi. Prima facie this is a comment about explaining a Tuesday fact about the past, not a Monday fact about the present.

Crucially, H is not M and R^* is not R. Therefore, the A-theorist can admit that there is an explanation that obtains on Tuesday. Though, the explanans of this explanation is R^* , not R, so it is R^* , not R, that must in light of this obtain on Tuesday.

Storrs-Fox anticipates that an A-theorist may respond to his argument by offering an alternative fact to R as explanans on Tuesday. He suggests that this form of response would land the A-theory with an additional cost and so the A-theory is still cast in a negative light by the discussion. He brings out the problem in the following way.

“Either R^ was among Anna’s reasons for hailing the taxi, or it was not. Suppose firstly that it was not. In that case, it appears that the explanation of Anna’s action at the later time of Bernard’s utterances is rather different in structure from the explanation at the time of her action. At the time of her action, the explanation includes **her reason** for acting (i.e., R). But at the later time, this reason drops out of the explanation and is replaced by a fact that **was not her reason** (i.e., R^*). The later explanation therefore seems to miss something.”* (2021: 4249–4250)

The reply I am outlining here is thus supposed to arrive at a problem, because R^* is not amongst Anna’s reasons for acting. However, I would push back against the idea that this is a problem, or at least a problem for the A-theory.

Above I have argued that Anna cannot on Tuesday have a normative or motivating reason for her action. Therefore, any explanans that obtains on Tuesday must fail to be a reason for her action. This means that there must be a gap between the motivating reason obtaining on Monday, and the explanans obtaining on Tuesday. If this gap is a problem, it is a problem that must face all theories (including Storrs-Fox’s B-theory) that take there to be an explanatory relation and explanans obtaining on Tuesday.

Further, Storrs-Fox is here simply assuming that on Tuesday Anna’s action is an explanandum, or a relatum of an explanatory relation that obtains on Tuesday. However, so far our examination of Anna’s case has not led us to this conclusion. Rather, we have uncovered two relations that are explanatory, M and H. M has Anna’s action, AN, as explanandum, but occurs on Monday not Tuesday. H occurs on Tuesday but does not have Anna’s action as explanandum (rather, the explanandum of H is the fact that Anna was earlier acting, AP). So, it is not the case that on Tuesday we shift to explaining Anna’s action in terms of something other than a reason for her action.

We are now in a better position to deal with the case of Anna’s phone raised at the end of the last section. Storrs-Fox’s argument seems to be that Anna’s action must have an explanation on Tuesday as her phone’s being on the dresser has an explanation on Tuesday. But, what explains her phone’s being on the dresser on Tuesday is not its being stolen then, but specifically its being stolen earlier than Tuesday, and relatedly, what explains it being stolen earlier than Tuesday is Anna’s hailing earlier than Tuesday, and what explains Anna’s hailing earlier than Tuesday is that it is raining earlier than Tuesday. We are again dealing with a form of historical explanation. In more A-theoretical terms, the explanantia on Tuesday are that it was earlier than now [Tuesday] stolen, because Anna was earlier than now [Tuesday] hailing, because

it was earlier than now [Tuesday] raining. That is, on Tuesday it is R^* , not R , that is an explanans and the explanation of the phone's location involves H , not M .

4 Semantics

Let us now address a semantic concern that Storrs-Fox raises for the A-theorist. Storrs-Fox says that the B-theorist can render the semantics of S2-4 in something like the following way.

S-SIMPLE-B:

S2: Anna's reason for hailing the taxi was RB .

S3: If Anna's reason for hailing the taxi was RB , then RB explains why she was hailing the taxi.

S4: Therefore, RB explains why Anna was hailing the taxi.

Storrs-Fox says the A-theorist, however, will have to render it in something like the following way.

S-ALTERNATIVE:

S2: Anna's reason for hailing the taxi was R .

S3: If Anna's reason for hailing the taxi was R , then R^* explains why she was hailing the taxi.

S4: Therefore, R^* explains why Anna was hailing the taxi.

Storrs-Fox argues that the semantics of S-SIMPLE-B is more simple than the semantics of S-ALTERNATIVE. It is more simple because RB occurs throughout S-SIMPLE-B, making the inference straightforward, whilst there is a shift from R to R^* in S-ALTERNATIVE. This is therefore a cost for the A-theorist that takes this line of response.

I wish to respond to this by denying that the A-theorist is saddled with S-ALTERNATIVE. Rather, following the argument of Sect. 2, the A-theorist can adopt S-SIMPLE-A and deny that S3 and S4 are true (they are not true as S2 refers to M , and M occurs on Monday and not Tuesday). In addition, they can offer S3* and S4* which are true, the semantics of which may look something like the following.

S-SIMPLE-A:

S2: Anna's reason for hailing the taxi was R .

S3: If Anna's reason for hailing the taxi was R , then R *explains* why she was hailing the taxi.

S4: Therefore, R *explains* why Anna was hailing the taxi.

S-SIMPLE*:

S2: Anna's reason for hailing the taxi was R .

S3*: If Anna's reason for hailing the taxi was R , then R *explained* why she was hailing the taxi.

S4*: Therefore, R *explained* why Anna was hailing the taxi.

The semantics of S-SIMPLE-A and S-SIMPLE* are at least as simple as that of S-SIMPLE-B, and therefore the A-theorist has no cost here.

The explanatory relation uncovered in Sect. 3 is the historical relation H. H and M have distinct explananda, namely AP and AN respectively. It is of note that this distinction between AP and AN is one that can be recognised by both A-theorists and B-theorists. For an A-theorist, AN is a hailing by Anna that (presently) occurs on Monday, whilst AP is a Tuesday temporary fact that Anna *was* hailing. For a B-theorist AN is a hailing by Anna that (tenselessly/permanently) occurs on Monday, whilst AP is the permanent fact that Anna hailed earlier than Tuesday. (I thus use the labels ‘AN’ and ‘AP’ in a way that allows for an A-theory or B-theory interpretation, allowing context to settle which is at issue if just one is.)

I now wish to turn to Storrs-Fox’s semantics and consider it with AP and AN thus clearly distinguished. Storrs-Fox seems to be concerned with AN as an explanandum on Tuesday (though, we have seen it is not clear AN, as opposed to AP, actually is an explanandum on Tuesday). With this in mind the B-Theory semantics of S2-S4 can be clarified as S-SIMPLE-B-AN.

S-SIMPLE-B-AN:

S2: Anna’s reason for AN was RB.

S3: If Anna’s reason for AN was RB, then RB explains AN.

S4: Therefore, RB explains AN.

If we also clarify the A-theory semantics of S-SIMPLE* in this way we get S-SIMPLE*-AN.

S-SIMPLE*-AN:

S2: Anna’s reason for AN was R.

S3*: If Anna’s reason for AN was R, then R explained AN.

S4*: Therefore, R explained AN.

At this stage, it is in fact the B-Theory semantics, not the A-theory semantics that comes at a cost, contra Storrs-Fox. Assuming that a motivation relation can be an explanatory relation, the inference in S-SIMPLE*-AN is straightforward. M gives us this. However, the inference in S-SIMPLE-B-AN is not. In the latter inference S3 contains a crucial shift from RB being a reason for AN on Monday, to RB being an explanans of AN on Tuesday. This shift opens up two important gaps, one concerning reasons and one concerning explanatory relations.

As stressed above, Anna can’t on Tuesday perform the action at issue in AN. She did earlier perform it, but can’t then. So, on Tuesday, Anna cannot have a reason to perform it. Thus, if RB occurs on Tuesday, it cannot do so as a reason for that action. Perhaps it was on Monday a reason for it, but it is no longer a reason for it on Tuesday. In this way, Storrs-Fox’s semantics seems to suffer from a form of the problem that we saw he himself raises in Sect. 3. The explanatory relation that occurs on Tuesday must be of a different form to that which holds on Monday. This is the first gap passed over in S3 and the inference for the B-theorist.

The second gap concerns the explanatory relations themselves. *M* is an explanatory motivating relation with *AN* as explanandum. *M* is at issue in *S2* and the antecedent of *S3*. However, *M* occurs on Monday and not Tuesday. Therefore, *M* is not at issue in the consequent of *S3* or *S4*. Storrs-Fox is simply assuming that because one explanatory relation holds on Monday a different one with *AN* as explanandum will hold on Tuesday (this is his assumption that explanation is forever). But, this is not something he has argued for. Nor is it something we have directly observed as occurring in assessing Anna's case.

The gaps just highlighted for the B-theorist do not disprove the B-theory position. There might be a way to justify the inference. However, it has been shown that the B-theorist is saddled with a cost that the A-theorist is not.

(These gaps in the B-theory inference have analogues in the inference given in *S-SIMPLE-A*. The gaps in this latter inference also give the A-theorist grounds to deny its validity, and hence deny that *R* is an explanans on Tuesday.)

5 The A-theory reply

The A-theory reply to Storrs-Fox's argument that I propose combines the observations of the last three sections. The point is essentially this. If we take *S3* and *S4* to concern *R* as explanans, then we ought to take them to be false, though replaceable by the true *S3** and *S4** (along the lines of Sect. 2). On the other hand, if we take there to be explanation occurring on Tuesday, we ought to take the explanans to be something other than *R* (along the lines of Sect. 3). Crucially, this might be understood to vary with context, so that in some contexts we are focused on *R* (and for example *M*) and in others on current explanation (and for example *H*). In neither case are we committed to taking there to be an explanatory relation that occurs on Tuesday with *R* as explanans.

I would like to emphasise that the reply that I have given, whilst coinciding with the metaphysics of temporary facts adopted by the A-theory, is in fact motivated independently of this metaphysics. The key motivation, throughout, has stemmed from two points, that one cannot have a reason to do something that it is impossible for one to do and that one cannot possibly at one time perform an action at an earlier time.¹¹ These two points have a plausibility independently of the A-theory. They motivate my reply by making it clear that the A-theorist can coherently deny that there is an explanation obtaining on Tuesday with *R* as explanans. The general nature of these points also means that the form of reply that I have here outlined concerning Anna's case would also apply to other cases.

Before closing this section I would like to say a little more about the relation between *M* and *H*. In the last section we considered the explanation of *AN*. Neverthe-

¹¹ Storrs-Fox focuses on motivating reasons and related explanation of action, though he suggests that he believes the general form of his argument will also apply to other forms of explanation. I will not discuss other cases in detail, as he does not, but I do want to highlight that these two points have parallels that could ground similar replies concerning different forms of explanation. For example, it seems true that it is impossible (in everyday settings) for a cause at one time to have an effect at an earlier time, and so there cannot be a cause at one time with an effect at an earlier time.

less, plausibly, as with H, Anna's case does give us grounds for thinking AP can be explained. This gives us two further forms of the inference as captured in S2 to S4. The A-theory form is given by S-MIX-A and the B-theory form is given by S-MIX-B.

S-MIX-A:

S2: Anna's reason for AN was R.

S3: If Anna's reason for AN was R, then R* explains AP.

S4: Therefore, R* explains AP.

S-MIX-B:

S2: Anna's reason for AN was RB.

S3: If Anna's reason for AN was RB, then RB explains AP.

S4: Therefore, RB explains AP.

Both of these inferences clearly involve gaps. Though, I suggest that it is not obvious the gaps are more problematic in one case than the other, or hence, that these inferences preference either the A-theory or B-theory.

Both involve a shift from an explanatory relation occurring at one time (namely M) to a different explanatory relation (such as H) with a different explanandum (namely AP) occurring at a later time.

S-MIX-B, unlike S-MIX-A has the same fact as reason in the motivating relation and as explanans in the later explanatory relation. I suggest it is not clear that this is an advantage. Given general features of the A-theory of time R and R* will be fundamentally linked: unless time ends facts such as R are necessarily followed by facts such as R* due to the flow of time.¹² The B-theory inference has the fundamental tie of identity where the A-theory inference has a fundamental tie of necessary covariance. (In neither case can you have the reason on Monday without the explanans on Tuesday. And, in both cases, given the passing of time, the existence of the entity that is reason on Monday is followed by the existence of the entity that is explanans on Tuesday.)

It is true that the lack of identity means that R*, unlike R, is not a reason for AN. However, as noted above, RB cannot on Tuesday, and hence in the explanatory relation at issue here, be a reason for AN either (even if it was earlier one).¹³ Both inferences hence involve a similar shift from a motivation relation concerning a reason, to an explanatory relation the explanans of which is not a reason.

The A-theory reply I have given does make use of explanatory relations like M and H, relations that are no doubt linked. However, this is not a cost that the A-theory has that the B-theory lacks.

Storrs-Fox's argument assumes that explanation is forever. I have approached this claim by focusing on specific explanatory relations (something Storrs-Fox does not do). Looking at the explanatory relation M, we have seen that there is an important

¹² Note, this is not an ad hoc point, rather it is a general feature of A-theories.

¹³ Note, we should also deny RB is a reason for AP on Tuesday. One way to motivate this, is to note AP concerns a Monday action, so not one Anna can perform or have a reason to perform on Tuesday. But, a second way to motivate this is to note that AP itself is not an action at all, but rather a fact concerning an action. Thus, it is not something that anyone can ever do, or hence have a reason to do.

sense in which the claim that explanation is forever is false. Some explanatory relations occur at one time and not at another. Focusing on the link between the explanatory relations M and H, we have seen that there is another different sense in which the claim is true. Given the explanatory relation M occurs on Monday, the related explanatory relation H occurs on Tuesday (and relatedly for later times). However, neither of these points give us what Storrs-Fox needs, namely that R explains on Monday and at later times. (Storrs-Fox's criticism of the A-theory relies on committing the A-theory to R being an explanans on Tuesday. What I have argued, is that the A-theory is not committed to this.)

6 A problem for the B-theory

Having argued that responding to reasons does not pose a particular problem for the A-theory, in this section I will present an argument to show that it does present a problem for the B-theory.

Bilal has a meeting today. He knows that the meeting is at midday on the 20th of May 2022 and he fully intends on going to the meeting. However, as the meeting nears, Bilal remains in his office tidying his papers. Suddenly, Bilal stops what he is doing and heads for the meeting. It seems that Bilal's action of heading to the meeting must be explained by his forming a present tensed belief, such as the belief that 'it is now 11:55am'.¹⁴ It seems no related tenseless belief could account for his action, because he could have such a tenseless belief all morning without being moved to act. For example, he could believe all morning 'the meeting occurs at 12pm, 20th of May 2022' and 'it takes 5 minutes to travel from my office to the meeting room'.

This is, of course, an instance of one of Perry's (1979) cases of the essential indexical.¹⁵ Something that it is important to note regarding such cases, however, is that the essentiality here stems from rationality. Bilal must have the present tensed belief in order to act rationally. It is not, for example, a physiological demand. We could imagine Bilal forming a tenseless belief and then suddenly because of this heading for the meeting. But, Bilal would be irrational if he acted in this way. Bilal does not require the present tensed belief to act, he requires it in order to act rationally.

For example, we could imagine Bilal forming the tenseless belief '11:55am is 11:55am', and on the basis of this heading to his meeting. But, he would be irrational if he did so. Alternatively, we could imagine Bilal suddenly forming the belief that 'the meeting occurs at 12pm, 20th of May 2022' and on the basis of this leaving his

¹⁴ For clarity in this section I will pick out phrases that capture beliefs with single inverted commas. By "present tensed belief", I mean a belief one would naturally express using a present tensed utterance, and so on for other beliefs.

¹⁵ With Perry's essential indexicals highlighted, one might wonder if the argument I will outline in this section concerning temporal indexicals has analogues concerning first-personal indexicals and spatial indexicals. I cannot discuss these points or the self and space in detail here. But, it is of note that an analogous argument concerning the self can be accommodated by a view of the self that denies reductive physicalism and denies some interpretations of Wittgenstein's private language argument. Whilst a parallel argument concerning space fails to go through because spatial indexicals such as 'here' are not essential, rather they can be replaced with temporal first personal ones such as 'the place where I am now'. For discussion of these points see Pearson (2015) and (2018).

office. But, again, he would be irrational if he did so. Or, at least, he would be irrational if he did so without also forming a present tensed belief such as that ‘it is now 11:55am’. Bilal can act on a tenseless belief, even a relevant tenseless belief, but if he does not also act on a relevant present tensed belief, he will act irrationally.¹⁶ Why then must Bilal have a present tensed belief in order to act rationally?

I will here assume that reasons are facts (as opposed, for example, to beliefs or desires). Here is not the place to defend this theory of reasons, but it is of note that such a theory has been forcefully defended, is a live option in the literature, and appears to be adopted by Storrs-Fox.¹⁷

I will also assume that the demands of rationality stem from reasons: what one rationally ought to do, is what one has normative reason to do. Again, here is not the place to defend an account of rationality (it would take us too far away from the central point and take too much space). However, it is again of note that such a theory has been forcefully defended and is a live option in the literature.¹⁸

Bringing these points together,¹⁹ we can say, broadly, one is rational if one acts for reasons that justify one’s action, that is, if one’s motivating reasons are normative reasons, that is, facts that justify the action.²⁰ So, the demand that rationality places on Bilal is that he acts for relevant normative reasons, that the facts that motivate his action justify his action.

However, reasons are facts and in order to be able to respond to a fact Bilal must be aware of it. That is, in order for Bilal to have a normative reason as his motivating reason, he must have a belief with that fact as content.²¹ The rational demand that Bilal acts for relevant normative reasons therefore gives rise to the demand that he acts on beliefs with those facts as content.

Therefore, if there is a belief or type of belief that rationality demands Bilal to act in light of, then that is because there is a normative reason that rationality demands Bilal acts for and only that belief or that type of belief has that normative reason, that is fact, as content.

Rationality demands that Bilal acts because of his belief that ‘it is now 11:55am’ (or for a present tensed belief of a related type, such as the belief ‘the time is currently 11:55am’). It demands this because it demands that he acts because of the fact that is the content of this belief (or the content of this type of belief). If Bilal does not act for

¹⁶ Note, we can and often do recognise people acting irrationally and on the basis of beliefs/reasons inappropriate for justifying the action (cf. Wason (1966) for a well-known example).

¹⁷ Cf. e.g. Dancy (2000) and Lowe (2008) for a defence of this idea.

¹⁸ Cf. e.g. Kolodny (2005) and Raz (2005) for a defence of this idea. (It is of note that this is argued to be the case quite generally, including specific arguments to show that so called structural rationality (roughly, psychological coherence) is also determined by responsiveness to reasons.)

¹⁹ Note Kolodny (2005) speaks of reasons as facts, and for an explicit combing of this view of reasons and rationality see Pearson (2018).

²⁰ This needs to be made a little more complicated to accommodate instances in which an agent has false beliefs about what normative reasons obtain, e.g. one might amend it to say an agent is rational if, had their beliefs been true, their motivating reasons would have been normative reasons (cf. e.g. Kolodny (2005)). But, this complexity is not crucial to the argument here.

²¹ Cf. e.g. Alvarez (2008).

that normative reason, he does not act for facts that justify his action, and therefore his action is not rational.

Thus, if Bilal must have a present tensed belief such as the belief that ‘it is now 11:55am’ to act rationally in heading for the meeting, then it must be that such a present tensed belief captures a fact not captured by any other non-present tensed beliefs. This point is readily accommodated by the A-theory, because according to the A-theory present tensed beliefs will capture temporary facts that other tenseless beliefs do not (such as the fact that it is now 11:55am). The B-theory, however, cannot account for this. According to the B-theory any present tensed belief will have a permanent fact as content. Permanent facts, however, can also be the content of tenseless beliefs.

We can bring out the difficulty here by considering Bilal’s belief that ‘it is now 11:55am’. There are two prominent B-theory accounts of the truthmakers of such tensed beliefs. According to the first, date account, Bilal’s belief would be made true by the permanent fact that 11:55am is 11:55am. According to the second, token reflexive account, it would be made true by the permanent fact that Bilal’s belief occurs at 11:55am.²² Both of these permanent facts can be the contents of tenseless beliefs, such as the belief ‘11:55am is 11:55am’ and the belief ‘B occurs at 11:55am’ (where ‘B’ is a name for that belief). However, Bilal would be irrational if he acted on the basis of either of these tenseless beliefs.²³

Further, the truthmakers proposed by the B-theory for Bilal’s present tensed belief do not pick out normative reasons essential for justifying his action. The fact that 11:55am is 11:55am is not a reason for him to attend his meeting. All entities are self-identical whether or not Bilal ought to attend the meeting. The fact that a particular belief of Bilal’s occurs at 11:55am is also not an essential reason for him to attend the meeting. He ought to attend even if he does not have that particular belief.²⁴ The tenseless truthmakers proposed by the B-theory are not normative reasons for Bilal’s action, and tenseless beliefs with these facts as contents also do not make his action rational. The truthmakers proposed by the B-theory for Bilal’s present tensed belief therefore play no role in explaining why rationality would demand that he had such a present tensed belief.

On the other hand, let us consider permanent facts that a B-theorist might propose as essential normative reasons for Bilal’s action. These might include the fact that the meeting occurs at 12pm, 20th of May 2022 and the fact that it takes 5 min to travel from Bilal’s office to the meeting room.²⁵ Both of these facts could be the contents of

²² Cf. e.g. Mellor (1998) who mentions both options, arguing for the former option in opposition to his earlier adoption of the latter option in his (1981). Maclaurin and Dyke (2002: 279) seem to present both options without explicitly distinguishing them.

²³ Perhaps Bilal could act rationally on the latter belief, but only if his act was also performed on the basis of a present tensed belief such as the belief that ‘B is occurring now’ and therefore the issue simply arises again.

²⁴ Even if Bilal had not noticed the time, and hence formed no belief like belief B and stayed tidying his office, it would still have been the case that he ought to have attended the meeting. On the other hand, Bilal could have failed to form belief B and still have rationally left for the meeting (for example, if he had a belief that was a different token of the same type as belief B, or if he had a token belief of a different type, such as of the type ‘the meeting is 5 minutes from now’).

²⁵ Compare Storrs-Fox’s suggestion that Anna’s reason for hailing is the permanent fact that rain occurs at a specific time.

beliefs that Bilal has all morning. Furthermore, both of these beliefs could play a part in motivating Bilal to act.²⁶ Nevertheless, rationality would still demand that Bilal must, in addition, have and act on a present tensed belief (such as the belief that ‘it is now 11:55am’). Therefore, whilst the facts the B-theorist picks out could be amongst Bilal’s motivating reasons, they are not sufficient normative reasons to make his act rational.²⁷ Thus, there must be a normative reason for Bilal’s action beyond these permanent facts, a normative reason essential for justifying Bilal’s action. The B-theory appears to be at a loss to offer such a fact.

The points just made can be summarised as follows. The demands of rationality are firstly that the motivating reasons for an action are normative reasons that justify it. The demands of rationality are hence, derivatively, that the beliefs we act on have as contents normative reasons that justify our actions. Therefore, if two different beliefs have as contents the same normative reason, rationality will not demand that an agent acts on one of these beliefs over the other. On the other hand, if rationality demands an agent acts on one belief instead of another, then that belief must have as content a normative reason the other fails to capture. Rationality demands that Bilal acts on a present tensed belief instead of or in addition to any tenseless beliefs. Therefore, Bilal’s present tensed belief must capture a normative reason distinct from any normative reasons captured by tenseless beliefs. The A-theory can readily accommodate this point by taking the required normative reason to be a temporary fact. The B-theorist cannot readily accommodate this point, as all B-theory facts can be captured by tenseless beliefs in addition to tensed ones. The B-theory therefore faces a problem when we consider actions performed for reasons.²⁸

Storrs-Fox does briefly mention essential indexical beliefs such as Bilal’s (2021: 4251). He says that a belief such as the present tensed belief ‘it is raining now’, will have as content a permanent fact. Further, this will be a permanent fact that might also be the content of a tenseless belief, perhaps, for example, the belief that ‘it is raining at 12pm, 20th of May 2022’. Storrs-Fox suggests that the beliefs differ because they present that permanent fact under different guises. More generally, tensed beliefs and

²⁶ It is of note that there are two elements to the rational demand for an agent to act on the basis of particular beliefs, firstly, that the beliefs have relevant normative reasons as contents and, secondly, that those beliefs enable the agent to act for those normative reasons. The permanent facts a B-theorist may offer as normative reasons are not only the contents of tenseless beliefs of Bilal’s but also beliefs that enable him to act for those reasons. Thus, it is right to say that the rational demand must be a demand for beliefs with different reasons as contents (not merely for beliefs that enable him to act for reasons which were already the contents of other beliefs that he could not act for).

²⁷ This point could be taken in two ways. One might say the permanent facts are not normative reasons at all. Alternatively, one could say whilst they are normative reasons, they are inadequate ones. The notion of adequacy here stems from the fact that many normative reasons are *pro tanto*, that is they can be weighed with and against one another. Therefore, a fact may be a normative reason to perform an action, but alone may be outweighed by a normative reason not to perform the action. For example, the fact that I need some fresh air is a normative reason to go outside, but alone it is outweighed by the normative reason that I have work to finish. But, if it becomes the case that I need to go to the library to finish the work, then this normative reason will combine with the first to make it all things considered reasonable and rational for me to go outside. We often act for more than one reason and rationality demands that these normative reasons collectively justify the action (something that a normative reason in isolation may fail to do).

²⁸ Cf. Pearson (2018) for a further defence of the points in this argument.

tenseless beliefs differ despite having the same facts as content, because they present those facts under a different guises.

It is not clear exactly what a guise is in this context. But, it is clear that according to this account tensed and tenseless beliefs have the same reasons as content. Storrs-Fox's reference to guises therefore does not account for the rational demand that Bilal has a tensed belief. To put the point differently, rationality is concerned with what reasons Bilal has and acts for, not with what guises those reasons occur to him under. Therefore, a reference to guises does not account for the rational demands placed on Bilal (or other similar agents).

The point just made makes it clear that the argument of this section is importantly different from arguments such as Prior's (1959) thank goodness argument that have been extensively discussed in the literature. Prior's argument establishes that tensed and tenseless beliefs can play different roles in our lives, so cannot have the same meaning (in some broad sense of the term). A prominent B-theorist reply to Prior's argument is to suggest that tensed and tenseless beliefs differ in meaning but nevertheless concern the same facts.²⁹ This reply relies on the observation that beliefs can be opaque, that is, that two beliefs might concern the same fact without a believer recognising this. Storrs-Fox's reference to guises is no doubt linked to this claim, guises are supposed to account for such opacity.

However, by focusing on rationality and the role of facts and motivating reasons, the argument of this section goes beyond Prior's. My argument specifically focuses on the facts beliefs concern. (Where Prior's argument highlights a difference in roles, my argument, via a consideration of reasons, specifically ties this to a difference in facts concerned.) Therefore, reference to meaning, opacity, or guises is not sufficient to provide a B-theory response to my argument (so long as it is assumed there is no difference in facts picked out).

7 Conclusion

Storrs-Fox has argued that the A-theory is wrong, because it takes motivating reasons to often be temporary facts though motivating reasons can be explanantia and as such ought to obtain forever. However, I have argued that motivating reasons often do not obtain forever, because an agent cannot at one time have a reason to perform an action at an earlier time. The A-theory can therefore coherently deny explanation is forever and does not face the problem Storrs-Fox suggests.

I have also argued that Storrs-Fox's B-theory does face a problem related to acting for a reason. It is common for there to be a rational demand on an agent to act on the basis of a tensed belief. The B-theory does not appear to be able to account for this, because the rational demand is a demand for beliefs with particular facts as contents and according to the B-theory, tensed beliefs will share contents with tenseless beliefs and so will not be demanded in place of them.

Storrs-Fox's discussion has helped to make it clear that the manner in which people respond to reasons, the rationality of people, is something that can inform the

²⁹ Cf. e.g. Mellor (1998: Chap. 4) and Maclaurin and Dyke (2002).

debate between the A-theory and the B-theory of time. However, Storrs-Fox's discussion fails to establish that it is the latter theory that gains credence over the former in light of this.

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