

Shepherd's Accounts of Space and Time

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Abstract

There is an apparent tension in Shepherd's accounts of space and time. Firstly, Shepherd explicitly claims that we know that the space and time of the unperceived world exist because they *cause* our phenomenal experience of them. Secondly, Shepherd emphasizes that empty space and time do *not* have the power to effect any change in the world. My proposal is that for Shepherd time has exactly one causal power: to provide for the continued existence of self-same or changing objects. Because Shepherd takes causation to be a relation whereby two objects combine to form a third, their effect, whenever we perceive a continually existing object, since time is a proper part of such objects, our perception of time is caused by time itself. Likewise, space's causal power is to provide for the possibility of the motion or rest of objects, and so when we perceive objects with space as a proper part, we come into causal contact with space.

Mary Shepherd's first book, *An Essay on the Relation of Cause and Effect* (1824), is aimed at refuting what Shepherd takes to be the radical and spurious conclusions that Hume defends about causation. Her second book, *Essays on the Perception of an External Universe* (1827), builds on the account of the causal relation developed in the first to further refute what she takes to be the (related) radical and spurious conclusions of both Hume and Berkeley about the external world. *Contra* her predecessors, Shepherd argues that we can have knowledge of a universe that exists independently of our minds; that exists external to our minds; that continues to exist when we are not perceiving it; and that consists of non-mental objects. In a sense, these are all reassuring theses,

but Shepherd's responses to her predecessors also imply some rather radical conclusions of her own. One such conclusion is that our phenomenal experience of space and time is structurally analogous to, but otherwise entirely unlike, the unobserved space and time in which what she calls 'external objects' actually exist.¹ Shepherd holds that our knowledge of external objects is limited to what we can discern about them in their role as the partial causes of our perceptions of them. Since our perceptions of objects exist in a variety of locations in phenomenal space and time, we can know that those objects themselves must have a structure that accounts for this variety. Since, however, those objects are external, not internal, we know that this structure cannot be identical to the phenomenal structure of our experience. That thesis leads to several important questions. What are phenomenal space and phenomenal time? What relation do these bear to the unobserved space and time of the external universe? What can we know about the space and time of the external universe, and how do we know it? What is the relation of the objects that exist in real space and real time to that space and time themselves? And what is the relation of those objects to our perception of them? Answering those questions is essential both to understanding Shepherd's reply to Hume and Berkeley, and to evaluating the plausibility of her own highly original philosophical system.²

¹ See e.g. Shepherd 1827, p. 59. Note that 'external' here specifically indicates being outside the mind, but not outside the body. Fasko 2023 argues that Shepherd uses 'self' to refer to the mind-body compound, which raises the possibility that the mind is itself spatially located. That possibility is further explored in Fasko and West forthcoming. Nothing in the current study requires settling that issue.

² The focus of the current paper will be on understanding Shepherd's accounts of space and time themselves. For investigations of Shepherd's response to Hume and Berkeley more generally see Bolton 2019, Landy 2020b, and Tanner 2022.

To begin to see how those answers might go, consider that Shepherd holds that to have causal power is to be a kind of object. An object necessarily has the causal powers that it does, and any change in an object's causal powers amounts to the creation of a new object.³ For example, fire is that which is created from the combination of spark and kindling, and which in turn burns wood, melts wax, and causes sensations of light and heat in an experiencing subject. These causal powers are part of the very essence of fire, and should it change its causal powers, for example, by petering out, it thereby becomes a new object, for example, cinders. Likewise, because space and time have causal powers—they are at least the cause of our ideas of them—space and time are, 'like every other existence in nature' (Shepherd 1827, p. 28). As such, they are necessarily capable of combining with other objects to form new, distinct existences. Furthermore, Shepherd holds that insofar as fire is caused by spark and kindling, since the causal relation is just the combination of causes to produce

³ Whether Shepherd holds that objects are *reducible* to their causal powers, or are something over and above these powers themselves has been the subject of recent debate in the secondary literature. See Bolton 2010, Fantl 2016, Tanner 2021, and Landy 2023b. This question is made acute by the current investigation insofar as one alternative to reading Shepherd as endorsing a bundle theory of objects is to read her as holding that objects are 'particles, (whatever particles may be,)' (Shepherd 1827, p. 304). If these particles are spatiotemporal objects, then it seems that the spatiotemporal qualities of an object have a kind of ontological priority over that object's other qualities. Then again, Shepherd is explicit that her ontology admits of non-spatiotemporal objects as well (see e.g. *Shepherd 1827*, p. 280-2, and their treatment in Landy 2024b), so her caveat here 'whatever particles may be' might indicate that we genuinely cannot conceive of the real essence of objects beyond knowing that they must have some such essence. In that case, space and time might not be privileged at all.

Unfortunately, a discussion of those questions must await another occasion.

their effect, fire is also *identical* to the combination of these causes. Combining a spark and kindling (in the right way) *is* creating fire. Fire *is* the product of spark and kindling. Likewise, since space and time are like every other object in nature, and combine with objects to create new existences, these new existences are identical to the combination of space, time, and the object with which they combine. I.e. space and time are part of the very essence of spatiotemporal objects. Or so I will argue.

To do so, I will begin with what appears to be a tension in Shepherd's view. On the one hand, as just mentioned, Shepherd explicitly claims that we know that the space and time of the unperceived world exist because they are causally responsible for the features of the space and time that we experience. Again, we observe our impressions of motion and the succession of our sensations, and reason that since the causes of these mental phenomena must have at least as much variety as the phenomena themselves, the world itself must have a structure that is sufficiently diverse to cause the observed variety of our sensations. Thus, we come to know space and time themselves as the partial cause of our experience of phenomenal space and time. On the other hand, as we will soon see, Shepherd also explicitly and repeatedly emphasizes that time does *not* have the power to effect any change in the world. The mere fact of an object's existence at one time rather than another cannot effect a change in that object. This thesis is of crucial importance to her philosophical system insofar as it guarantees that the future will resemble the past. If time could influence an object, then the mere fact that an object had some causal powers in the past, would not guarantee that it would have the same powers in the future. Shepherd mentions a similar view about space, that empty space is 'a nothing' that cannot be affected 'by any interference whatever' (Shepherd 1827, P. 388). So, on the one hand, Shepherd appears to hold that space and time are not causes (because if they were, then the future might not resemble the past), but on the other hand,

Shepherd appears to hold that space and time are causes (because they are the cause of our perceptions of them).

My tentative proposal for a resolution of these tensions is to suggest that time does have a causal power: to provide for the continued existence of self-same or changing objects. Time is a proper part of all temporally-extended objects, whether they continue to exist unchanged, or change by combining with other objects. As such, when such objects combine with our organs of sense and minds to create perceptions of these objects, it is time itself, as a proper part of those objects, that causes us to perceive their temporal extendedness, and thereby to perceive time itself.⁴ Likewise, space's causal power is to provide for the possibility of the motion or rest of objects, and so when we perceive objects with space as a proper part, we likewise come into causal contact with space. In both cases, because time and space provide for only the continued existence of objects (through space and time respectively), or the possibility of their change when combined with other objects in space and time, neither has the power to instigate a change in those objects by itself.

So, the apparent tension in Shepherd's accounts of space and time is *merely* apparent. When Shepherd appears to claim that time is causally inert, all that she really means to claim is that the passage of time alone cannot cause an object to change. That is all that she needs to support her

⁴ It is worth noting that Shepherd uses 'perception' as a technical term, which she defines as, 'a "consciousness of sensation", a sensation TAKEN NOTICE OF BY THE MIND' (Shepherd 1827, p. 9), and which she explains consists of a combination of contributions from both the senses and the understanding (Shepherd 1827, p. 67). So, when Shepherd claims that we perceive an object, she means that that object causes the mind to form a certain sensible quality, which sensible quality the mind hypothesizes to be caused by something external to it. Unless otherwise noted, I use 'perception' in this technical sense throughout.

thesis that the future will resemble the past: not that time is not causally efficacious *at all*, but rather that whatever its causal efficacy, time's passage alone cannot cause any change in a continually existing object. When she appears to claim that time is causally efficacious, is the cause of our idea of time, all that she really means to claim is that it is our encounters with temporally-extended objects, which necessarily have time as a proper part, that cause our idea of time. Similarly, when Shepherd appears to claim that space is causally inert, all that she is really means to claim is that space alone cannot cause a change to a spatially-extended object. And when she claims that space is causally efficacious, is the cause of our idea of space, what she really means to claim is that it is our encounters with spatially-extended objects, which necessarily have space as a proper part, that cause our idea of space.

My order of operations will be as follows. In the first section, I will explicate Shepherd's account of space, presenting evidence that she takes space to be both causally efficacious and causally inert. In the second section, I will present evidence that Shepherd takes time to be causally efficacious. In the third section, I will present evidence that Shepherd takes time to be causally inert. In the final section, I will present the outline of my proposed resolution of these apparent tensions.

1. Space

To begin, we can follow along with Shepherd's explanation of how we come by our notion of outwardness. In general, Shepherd holds that all of our thinking, whether it is about the external world or about our own mental lives, is conducted with what she calls 'sensation', which is her term for any mental item: 'sensation [...] is a generic term, comprehending every consciousness whatever' (Shepherd 1827, p. 6). So, the first step of her investigation into the origin of our idea of space is to

inquire after what sensation or sensations are involved in our first formulating that idea.⁵ She begins with an argument from elimination.

For the intimate sentiment of our own existence, separated from the ideas of our bodies, [...] has no relation to *space*, or place; *thought, sensations merely*, never suggests the occupation of space as essential to its existence; the *need of room*, or of the distinction of *here* and *there*. A dead body and a living one, take up the *same portion of space*. (Shepherd 1827, p. 57)

Since the representation of ourselves, or our minds, does not require making use of a representation of space, it cannot be from the representation of ourselves that we derive a representation of space.

Rather,

I consider another (and that perhaps the chief) method which nature takes to impress the notion of outwardness, to be by means of motion. [...] But the very impression of motion consists in the impression of passing through extended space, and as a corollary with it suggests to the mind, *here*, and *there*; and whilst the *mind* requires *no place*, nor *space*, to *comprehend it*, the sensation of passing through different points of space, suggests the notion, or rather inspires the immediate feeling of the *extension of space*, (or of an unresisting medium,) but never that of the *extensions of the sentient principle, the self*. (Shepherd 1827, p. 57-8)

When Shepherd mentions an ‘impression of motion’ here, she means something specific and unusual. As Shepherd sees it, impressions of motion derive from something like a sixth sense. They

⁵ Shepherd uses ‘idea’ to signify, ‘a distinct class of sensations, being the result of that reasoning or observation which shows that under certain conditions, there must needs be an existence when we cannot perceive it’ (Shepherd 1827, p. 133-4). She makes explicit reference to the idea of time (Shepherd 1827, p. 137-9), and for reasons we will soon see, it is plausible that she would likewise take us to have an idea of space.

are a kind of feeling distinct from sights, sounds, smells, touches or tastes (although coordinated with these just as these are with each other).⁶ This *feeling* of motion is distinct from the real motion⁷ of external objects, but is the means by which we represent that real motion (with the help of reason).⁸ Shepherd's suggestion is that this feeling of motion is a feeling of 'passing through empty space', and the idea of empty space requires, 'the distinction of here and there'. Since this distinction is *not* required for representing oneself or one's thinking, then the feeling of motion itself presupposes the idea of *outwardness*, or something existing 'elsewhere' from the mind and its sensations. That something is place, or the extension of space, or an unresisting medium.

Not only does the impression of motion first yield the idea of space, but the patterns that it exhibits in our thought likewise contains the material for understanding what that space *is*.

This space or unresisting medium appears continually to exist, and to respond regularly to *motion*, as other objects do to other senses. It is hence the immediate consequence of motion also to suggest the corollary that must be included in its essence, that is, the *reality* of distance

⁶ Shepherd states this explicitly—'Motion is thus a sort of sense' (Shepherd 1827, p. 104), and, 'The power of motion, as a sixth organ of sense' (Shepherd 1827, p. 230)—and also repeatedly mentions motion as an additional sense, for example, at *Shepherd 1827, p.* 16-17, 27, 40, 56, 74, 77, 88, 89, 102, 103, 104, 107, 181, 188, and 315.

⁷ By 'real motion' I mean what Shepherd sometimes calls unperceived motion, (see e.g. *Shepherd 1827, p.* 60, 260-1, and 406), which she holds that we know via its effect on us. I substitute the former for the latter to emphasize its metaphysical, rather than epistemological status. More on real motion in a moment.

⁸ Shepherd's understanding of the nature of reason has been a growing focus of the secondary literature on Shepherd recently. See Landy 2024a and Boyle 2023: 131-3.

or outwardness from the *sentient being*, the *self*; which has an equal relation to *rest*, and *motion*; and, therefore, knows of outward existence, as it does of *continued existence*, by a piece of reasoning; viz. that it needs must be in order to justify the possibility of motion when in a state of rest, as well as regularly to respond to its action upon demand. (Shepherd 1827, p. 57-9)

When Shepherd writes that space appears to ‘respond regularly to motion, as other objects do to other senses’ she means to signal to her reader a parallel between her treatments of the nature and reality of objects and that of space. Elsewhere in *EPEU*, Shepherd argues that it is because the same object can be encountered on multiple different occasions that we know it to really exist.⁹ (She contrasts this with the objects encountered only momentarily in dreams.) So, what she is saying here is that because space can be encountered on multiple different occasions, by way of impressions of motion, we can likewise know that space really exists. Similarly, because we can discern that the same object can cause in us a variety of sensations—e.g. a table causes me to sense a certain color, texture, smell, etc.—we can conclude that that object must have a variety of causal powers—e.g. qualities corresponding, but not identical, to these phenomenal ones. Analogously, because space is the cause of both our impressions of motion and the lack of such impressions at some times, it must be the real medium of both real motion and real rest. That which is real, for Shepherd, is that which *explains* the regular use of our senses, that which *causes* our senses to exhibit the patterns that they do. So, what she is arguing in this passage is that we can know that space is real because it is what accounts for our regular patterns of impressions of motion.

Shepherd emphasizes the reality of space in a footnote chiding Kant.

⁹ See e.g. *Shepherd 1827*, p. 14, 29, 30, and 60.

Kant imagines time and space to be only modes of the mind, which is mistaking the *causes* which determine a mode of the mind with the effect, viz. the mode of the mind. (Shepherd 1827, p. 59)

What is important in this footnote is not whether or not Shepherd gets Kant right, but rather the mistake that she attributes to him. Kant mistook the *cause* of our impression of motion for that impression itself. Shepherd takes space to be the *cause* of our impression of motion. Shepherd takes space to be *causally efficacious*.

This claim is no passing fancy, either, as Shepherd repeats it in several places. For example, And when motion is considered in relation to empty space merely, it is also perceived to be in relation to a mode of existence, proved by the same process of understanding to be *continually existing*. For as the exteriority of space, or distance between objects, replies regularly to the sense and use of motion, so must it be regarded as a *common quality to all* objects, and having its own *unperceived essence*. (Shepherd 1827, p. 175-6)

Empty space is perceived to be *a mode of existence*, with its own *unperceived essence*, which ‘replies regularly to the sense and use of motion’. That is, space is an existent object itself, with its own set of causal powers, including the power to cause in us an impression of motion, and thus the idea of extension. Again,

Empty space, and solid extension, are two sensations, whose causes must have proportional *variety*, and may, therefore, as outward beings, be examined as space, and solidity. (Shepherd 1827, p. 48)

The causes of our sensations of empty space and solid extension must have a variety proportional to those sensations, and so each must exist independently of the mind and have proportionally difference causal powers. That is, if one has an impression of motion at one time, and an impression of rest at another, or a sense of being in one location, then moving to a new one, or the feeling of

passing through an unresisting medium, and then encountering resistance in that medium, since space is the cause of each of these (except the last), space itself must have qualities corresponding to each. So, empty space has causal powers. Again,

And it is of no consequence what place, space, motion, and external things are when unperceived; they are conditions necessary to a result—therefore the real action of the organs, and the true motion of an individual mind must create a change of *self*, in relation to objects which *continue* to exist as the exciting causes for certain sensations or perceptions *in particular*, independent of, and distant from, the powers of sensation *in general*. (Shepherd 1827, p. 103)

Here Shepherd lists place, space, and (real) motion along with external things as having unperceived essences, which essences combine with those of the senses and the mind to create sensations of them. Again, space has causal powers, and it is via those causal powers that we come to represent and know about it. One more:

the child will consider its arms and legs as part of self; but the *place* in which he moves, the capacity of nature which allows him to move, which he by consciousness knows is now *always in him*, but is always ready to return upon the use of his arms and legs, he *rightly reasons or perceives is no part of himself*, his mind, or conscious existence; but yet must necessarily be *always existing* in order to be ever ready to respond to his motions, and to enable him to use his members without resistance. (Shepherd 1827, p. 104-5)

Even children, through a bit of latent reasoning, can know that the empty space in which they move exists independently of them, and is the cause of their impressions of motion.¹⁰ Again, space exists independently of us, has its own essence, and is causally efficacious.

So, throughout *EPEU* Shepherd's considered view appears to be that space is an object, with its own essence, that is causally efficacious. Except in one place. In the course of a thought experiment meant to draw out the nature of individual minds, Shepherd asks her reader to imagine a capacity for thought existing in an otherwise empty space. She begins that description with this description of space:

Now instead of empty space, of *nothing*, which never could be rendered a *something* fraught with every changing sentient quality by any interference whatever,—let there be that mysterious *something* capable of feeling (Shepherd 1827, p. 388)

Here Shepherd describes empty space as '*nothing*, which never could be rendered a *something* [...] by any interference whatever'. That view of space appears to be the exact opposite of the view that we have seen Shepherd repeatedly express. Rather than an independent object with its own essence, here she says that space is nothing. Rather than an object with its own causal powers, she here says that space is immune to any interference whatever.¹¹ Given that this is the only place in *EPEU* that

¹⁰ Shepherd appeals to the 'latent reasoning silently generated in the minds of all men, from infancy' (Shepherd 1827, p. 14) as being responsible for our knowledge of continued existence. See also *Shepherd 1827*, p. 170, 237, and Essay VII. Boyle 2023: 139-143 contains an excellent discussion of the notion of latent reasoning, and its complicated and puzzling place in Shepherd's system.

¹¹ Notice that Shepherd is here explicitly discussing *empty* space, and one might wonder whether it is empty space or occupied space that is the cause of our idea of space. (If it is occupied space alone that is the cause of that idea, then there might not be even any apparent tension between this

she expresses this view of space, and that her focus here is really on the nature of sentiency rather than the nature of space, it would be easy to dismiss this singular passage as an aberration, or a slip of the pen. It *would* be easy to do so, that is, if it weren't for the fact that Shepherd explicitly, repeatedly, and emphatically makes an analogous claim about time, while also explicitly, repeatedly, and emphatically making the analogous set of contrary claims about time as well. So, it is to those claims that we will now turn.

2. Time is causally efficacious

To begin, here is what is perhaps Shepherd's most explicit statement of the thesis that time is a real object with causal powers, including the power to cause in us perceptions of it.

Thus the existence of *time*, like every other existence in nature, is perceived by some quality it determines to the mind, but has not its whole existence merely in that individual perception.

It is the existence of things, and therefore of *time*, which enables them to be perceived, not the perception of them which enables them to exist. (Shepherd 1827, p. 28)

passage and earlier ones.) Recall, though, that Shepherd holds that an infant reasons from its impression of motion that space, 'must necessarily be *always existing* in order to be ever ready to respond to his motions' (Shepherd 1827, p. 105). So, our idea of space, which is the cause of our impression of motion, is an idea of empty space, an unresisting medium, that provides for the possibility of motion through it. Likewise, recall that she holds that we have sensations corresponding to *both* empty space and occupied space: 'Empty space, and solid extension, are two sensations, whose causes must have proportional *variety*, and may, therefore, as outward beings, be examined as space, and solidity' (Shepherd 1827, p. 48). My thanks for an anonymous referee at *Mind* for highlighting this issue.

Time exists just like every other existence in nature. It is perceived via certain sensations in the mind, which it itself causes. These sensations are not time itself, though, but merely our impression of time. Like any other object in the world, it is the mind-independent existence of time, and its causal influence on us, on which our perception of time depends, not the other way around.

Shepherd is likewise explicit that these claims are true not just of time generally, but also of individual periods of time and their measure.

The sense and mind being the same, the cause for a long *period of time*, cannot be the same with the cause for a *short period of time*; and time must be capable of being *measured* externally to the mind (Shepherd 1827, p. 27)

We have a sensation (or sensations) of a short period of time, and sensations of a long period of time. Since, for Shepherd, the mind and the organs of sense do not undergo change, it must be something independent of either of these that causes this variety of sensations. Thus, we conclude that it is time itself that is the cause of these sensations, and we proceed to measure time itself by referring our sensations to it.

Time, in union with the powers of sensation, may be measured by a succession of ideas in the fancy; but *time in nature*, and *unperceived*, measures, and is not measured by, the succession of events, whether sensations or not (Shepherd 1827, p. 164)

Here Shepherd distinguishes between our impression of time, and time in nature, and makes clear that the latter is the standard against which we measure successiveness. Again, this suggests that time is its own real independent existence, and that we can interact with it causally, more or less directly.

Those claims also appear to inform Shepherd's account of the difference between memory and sense. In the following presentation of that account, Shepherd mentions that the perception of the lapse of time is an essential ingredient to the former.

Objects of memory are compounded of the fainter *sensations* of sensible qualities, mixed with the *idea* that the causes of the original impressions are removed; (the which *idea* is the result either of observation or reasoning;) these again are united with the perception of the lapse of time, or of our own continuous existence going on between the original moment of the impressions, and the existence of the PRESENT faint sensible qualities. (Shepherd 1827, p. 137)

As per the previous quotation, the perception of the lapse of time is not a mere impression of time passing, but is a perception of the lapse of time itself. ‘Perception’ is generally a factive term for Shepherd the use of which implies a relation of the perception itself to the object that is its direct cause.¹² So, to represent an object as being an object of memory, one combines the faint sensible qualities caused by that object with the idea of that object itself and the perception of the passage of time itself. For that to be possible, it must be that time is what causes our perception of it. Time is causally efficacious.

Another version of this same point makes time’s role even more explicit.

Therefore the *objects* of memory are, *masses of sensible qualities plus the idea* of past time, *plus the idea* of having been caused by causes now removed. And thus the *idea* of TIME is not itself a mere sensible quality; for although the present moment be but a sensation of immediate existence; yet the past moment is only *remembered* in the present; and the memory of it is its *idea*, and not the very sensation itself: and this *memory* of past existence, and this *sensation* of present existence, includes in their union a *corollary*, which is the result of a relation that exists between the *idea* of remembered existence, and the *sensation* of present existence; namely that

¹² ‘The very words, perception of a thing, state a relation between two existences’ (Shepherd 1827, p. 28).

there ‘MUST NEEDS BE’ *a continued capacity in nature*, fitted to UNITE MEMORY TO SENSE, *and fitted to continue existence, which itself is neither memory nor sense* [...] ‘Thus the notion of TIME is an idea the *result of reasoning*; but TIME itself is a capacity in nature fitted to the *continuance* of any existence’ (Shepherd 1827, p. 137-9)

Shepherd’s focus here is on proving the existence of a mind—a continued capacity in nature for sensation—that unites memory and sense, but she also draws a parallel to the nature of time—that it is a capacity in nature fitted to the continuance of any existence.¹³ ‘Capacity’ is one of the terms that Shepherd often uses as a synonym for causal power, and a central pillar of her philosophical system is that objects necessarily have the causal powers that they do.¹⁴ So, her two-part thesis here is that the mind is an object with the causal power to unite memory and sense, and that time is an object with the causal power to provide for the continuance of any existence. We will come back to that specific claim about the causal power of time farther along, but for now, the important takeaway is that Shepherd appears to be deeply committed to the view that time is an object with its own essence and causal powers. And with that established, we now turn to the set of texts in which Shepherd claims that time does *not* exert causal influence at all.

3. Time is not causally efficacious

As mentioned, Shepherd is explicitly, repeatedly, and emphatically clear that time itself can have no causal influence. This claim is a crucial premise in her argument in defense of induction

¹³ Shepherd’s account of the mind has begun to receive some important scrutiny in the secondary literature lately. See Boyle 2020, Daoust 2022, Fasko 2023, Landy forthcoming.

¹⁴ See for example Lolordo 2021.

insofar as it combines with her thesis that every beginning of existence must have a cause to yield the conclusion that nature cannot change its course.¹⁵

The past, therefore, governs the *future*, because no *interval of time* can prevent the same thing from being the same. [...] no interval of TIME can make any difference in respect to them [like causes]; *and there is no other difference supposed or observed.* (Shepherd 1827, p. 287-8)

Shepherd is considering the question of whether the future will resemble the past. She considers an object that is not affected by any other objects for some duration of time. Because every beginning of existence, including any change to an object, must have a cause, if nothing affects the object under consideration, it cannot change. Since no other *object* affects the object under consideration, the only other contender for what would cause the future not to resemble the past is time itself. But, Shepherd, claims, no interval of time can make any difference with respect to the causes of some future effect. Time is not causally efficacious, and so cannot be what causes the future to change from the past. Shepherd repeats this claim often.

Thus no interval of *time*, can have any relation to any supposed difference, and the expectations of the *future* are thus *involved as identical* with the knowledge of the *present*. *Time enters not into the ideas of the axiom—that equals added to equals, the whole must be equal.* (Shepherd 1827, p. 323-4)

And, again,

¹⁵ Shepherd's argument in support of the thesis that every beginning of existence must have a cause has been the topic of a great deal of the secondary literature on Shepherd. See e.g. Bolton 2010, Paoletti 2011, Fantl 2016, Landy 2020b, Folescu 2022, Boyle, 2023: 30-9, Wilson forthcoming, Fields forthcoming, and Rickless forthcoming.

no interval of time which may elapse between the repetition of such mixtures, could prevent their being truly, the same identical objects in nature. (Shepherd 1827, p. 324)

Even children, peasants, and brutes can perceive that time cannot prevent the same thing from being the same, i.e. time itself is not causally efficacious.¹⁶

The relations of the simple impressions which influence the minds of children, or peasants, nay, even of brutes, enable them to perceive, that *like* things are equal to the *same things repeated*, and that they have no relation to *time*. The past, therefore, governs the *future*, because *no interval of time* can prevent the same thing from being the same. (Shepherd 1827, p. 287)

So, Shepherd seems to be deeply committed to the thesis that time is not causally efficacious, despite her equally strong commitment to time's being the cause of our perception of it.

4. The causal powers of time and space

To summarize our findings: Shepherd holds that space is causally efficacious, insofar as she holds that space is the cause of our perception of space, and real motion (which presupposes real places) is the cause of our impression of motion (which presupposes ideas of here and there). She also claims, at least once, that space is nothing, and appears to claim that it is not causally efficacious. Likewise, she holds that time is causally efficacious insofar as it is the cause of our perception of time, but also appears to hold that time is not causally efficacious insofar as time itself cannot be the cause of any change. That is our exegetical conundrum, and the purpose of this section is to show that a close examination of Shepherd's texts reveals a resolution of it.

Before turning to that resolution itself, though, it will be helpful to review Shepherd's account of causation, within which all of these issues arise. Here is her definition of 'cause'.

¹⁶ For an account of the varieties of intellect that Shepherd countenances, see Fasko 2021.

A Cause, therefore, is such an action of an object, as shall enable it, in conjunction with another, to form a new nature, capable of exhibiting qualities varying from those of either the objects unconjoined. This is really to be a producer of new being.—This is a generation, or creation, of qualities. (Shepherd 1824, p. 63)

As Shepherd sees it, the relation of cause and effect is the relation whereby two objects combine to bring into existence some third object. The two objects combined are causes. The new object is the effect.

An Effect is the produced quality exhibited to the senses, as the essential property of natures [causes] so conjoined. (Shepherd 1824, p. 63)

Just as causes are defined as those objects that combine to create a new object, effects are complementarily defined as those objects that are the result of that combination. Interestingly, late in *EPEU*, Shepherd reveals that she does not take this relation to be an essentially *temporal* one.

Time is necessary to continue existence but not to the action of causation considered independently of such continuity. (Shepherd 1827, p. 407)

The idea of causation is the idea of two objects combining to create a third. While that combination *de facto* occurs over time, it is not *per se* temporal.¹⁷ It is only because such combinations *happen* to occur in, and over, time that we think of them as temporal, but ‘considered independently of such continuity’ time is not necessary to the action of causation. That is a very interesting thing for Shepherd to say about causation! However, it is not the most important aspect of this passage for

¹⁷ Landy 2020 argues that Shepherd must hold that some qualities of objects are essentially durational. That claim is compatible with the present one insofar as the combination of qualities is not *per se* temporal, even if some of the qualities that are *de facto* combined are essentially temporal ones.

present purposes. Rather, notice Shepherd's claim that, 'time is necessary to continue existence'. By itself, this claim is nothing surprising. Of course, time is necessary to continue existence: continuance itself is a temporal notion, something like persistence *through* time. In the context of Shepherd's account objects and causation, though, this claim can take on a different significance. An object necessarily has its causal powers; its causal powers are the ways in which it combines with other objects to produce some additional effect; like effects arise from like causes.¹⁸ If time is necessary to continue the existence of other objects, then continuing the existence of other objects appears to be one of, if not *the*, causal powers of time.

In fact, supposing that providing for the continued existence of objects is the *sole* causal power of time, makes for a tidy argument in favor of Shepherd's thesis that time cannot produce changes in objects that would cause the future to differ from the past. If time's sole causal power is to provide for the continuance objects, for their remaining as they are, then time does not have the power to effect *change* in those objects. Recall that Shepherd repeatedly frames this claim in terms of time's incapacity for preventing the same from being the same, i.e. for doing anything other than allowing the object to continue.

no *interval of time* can prevent the same thing from being the same. (Shepherd 1827, p. 287)

no *interval of time* which may elapse between the repetition of such mixtures, could prevent [...] objects if they be of the same kind known, or supposed, from being *like others of a similar kind*, (which respect to their FUTURE *untried qualities*), (Shepherd 1827, p. 292)

no *interval of time* which may elapse between the repetition of such mixtures, could prevent their being truly, the same identical objects in nature. (Shepherd 1827, p. 324)

¹⁸ ERCE 27.

Why is it that time alone cannot cause a change in objects? Because time's sole power is to cause the continuance of objects unchanged. So, when Shepherd appears to claim that time is causally inert, all that she really means to claim is that the passage of time alone cannot cause an object to change.

That is all that she needs to support her thesis that the future must resemble the past: not that time is not causally efficacious *at all*, but rather that whatever its causal efficacy, time's passage alone cannot cause any change in an object. If time's sole power is to cause the continuance of objects unchanged, Shepherd earns precisely the thesis she needs without having to give up the equally important thesis that time is the cause of our idea of time (more on which in a moment).

But can this be the *sole* causal power of time? Doesn't time *also* provide for the medium through which objects *do* change? For example, if the causal relation is one whereby two objects combine to create a third object, their effect, and such combinations occur in time, then doesn't time also have the power to facilitate this combination? Indeed it does, and we must amend Shepherd's thesis accordingly. Time provides for the medium for objects to continue to exist unchanged, or to combine with other objects to change. Important to note is that in the latter case, while time provides for the possibility of an object's combining with some object *other than time* to create a new object, and thus makes time *necessary* for change, time itself is never alone *sufficient* for change. Time provides for the *medium* through which temporally-continuous objects change, but never effects that change itself. This is the sense in which time is causally inefficacious: it does not, by itself, effect change in temporally-continuous objects.

What then is the sense in which time is the cause of our perception of it? If time's only causal power is to provide for the medium in which objects continue to exist or change, then in what sense is time the cause of our perception of it? Here again, Shepherd's understanding of the causal relation is of paramount importance. Recall that for Shepherd causation is the relation whereby two objects combine to create a third. As Shepherd sees it, it is the conjunction of all the

objects necessary to produce a given effect, with all of their powers, that is identical to the effect itself.

To represent the relation of cause and effect, as, *A followed by B* is a *false* view of the matter; cause and effect might be better represented rather, as $A \times B = C$, therefore *C* is *included* in the *mixture* of the objects called *cause*. (Shepherd 1827, p. 282)

So, if time's causal power is to provide for the continued existence of objects, then every continuing object has time as a proper part. So, when one encounters some object, *O*, in the world, and thereby comes to form a perception of it, the cause of that perception is really the complex object with of all of *O*'s non-temporal qualities, say, $Q_1, Q_2, \dots Q_n$, and time itself, *T*. We might call such an object *O*-continuing-in-time. When that temporally-extended object then itself combines with our organs of sense and mind, a perception of it, including the time in which it exists, is created in the mind. Thus, time alone does not cause our perception of time, not by itself, but is the partial cause of its perception via its combination with the objects that exist in it, together with which it affects our organs of senses and mind.

What about space? As with time, we saw Shepherd claim that space is both, '*nothing*, which never could be rendered a *something* [...] by any interference whatever', and the cause of our impression of motion. If time is that which provides for the *continued* existence of objects, and we perceive it via its combining with objects to cause in us an idea of a continuing object, then we should expect an analogous set of these with respect to space. We should expect space to provide for some mode of existence of objects, and for our perception of space to result from our perceiving spatial objects. Regarding the latter claim, here again is Shepherd on the nature of our idea of outwardness.

In this sense, it [outwardness] is a quality common to all continually existing objects; and although the inward sense of it be a sensation, yet it must have its *cause*, and if it regularly

return upon the senses as other qualities do, must be concluded also like them ‘*continually to exist*.’ (Shepherd 1827, p. 64)

For as the exteriority of space, or distance between objects, replies regularly to the sense and use of motion, so must it be regarded as a *common quality to all* objects, having its own *unperceived essence*. (Shepherd 1827, p. 176)

Outwardness, or spatiality, is ‘a quality common to all continually existing objects’, but we must also take it to ‘continually to exist’ and to have ‘its own unperceived essence’.¹⁹ That is, just like time, space is an object unto itself, but an object that combines with all other objects to produce some feature in common to all of them. So, again, space might not combine with our perceptual faculties *directly*, but rather only as a part of the complex objects that do: $Q_1, Q_2, \dots Q_n, \times S$.

What is that quality, though, that is the spatial analog of time’s providing for the continued existence of objects, or the possibility of their changing? Well, if continuance is the ability of an object to remain the same through changes in time, then the feature we should expect space to impart to objects is the ability to remain the same through changes in space, i.e. a capacity for

¹⁹ An anonymous referee at *Mind* points out that it is surprising to find Shepherd making such bold claims to knowledge of the unperceived essence of space, since she likewise holds that, ‘The real essences of matter and mind we know not’ (Shepherd 1827, p. 244). That passage goes on to explain, however, that, ‘We know of other things which must ‘needs exist’ by our sensations, but cannot conceive the nature of any essence not in our experience’ (Shepherd 1827, p. 244). As I read this addendum, what Shepherd is saying is that we can know facts about the essences of objects, via reasoning from our sensations to such facts, but that in doing so, we lack the particular kind of *direct* knowledge that we have of our sensations themselves. She goes on to warn against taking the indirectness of this kind of knowledge of essences to warrant any kind of skepticism about them.

motion. As we saw earlier, then, it is no accident that we first come to know of externality via our impression of motion. That impression corresponds to an essential feature of externality, or space, itself.

Outward existence, is the perception of a continued independant existence in relation to motion, from our own minds taken as a centre whence we set out, the which motion is a sort of sense, whose sensible quality merely, could not immediately yield the notion of unperceived exteriority, unless mixed with the powers of the understanding, which refer its sensible quality to an unperceived cause (Shepherd 1827, p. 175)

Our perception of outward existence is the perception of a continued independent existence in relation to our impression of motion, and reason informs us that such a perception corresponds to the real nature of unperceived exteriority. So, space itself is what makes possible our impression of motion, and must have a power corresponding to it. Recall that Shepherd repeatedly refers to space as an ‘unresisting medium’.

the immediate feeling of the *extension of space*, (or of an unresisting medium,) (Shepherd 1827, p. 57-8)

This space or unresisting medium appears continually to exist, and to respond regularly to *motion*, as other objects do to other senses. It is hence the immediate consequence of motion also to suggest the corollary that must be included in its essence, that is, the *reality* of distance or outwardness from the *sentient being*, the *self*; which has an equal relation to *rest*, and *motion*; and, therefore, knows of outward existence, as it does of *continued existence*, by a piece of reasoning; viz. that it needs must be in order to justify the possibility of motion when in a state of rest, as well as regularly to respond to its action upon demand. (Shepherd 1827, p. 57-9)

The essence of space is to be an unresisting medium. That space is essentially *unresisting* implies that motion through it, unresisted motion through it, is one of its essential features. What it means to be unresisting is precisely that as objects move through space, space itself has no effect on them other than providing for that motion. Any such changes must be instigated by objects other than space itself, just as any change to temporally-continuous objects must be instigated by some object other than time. In the second passage here, Shepherd lists some other, related essential features of space as well: the reality of distance, outwardness from the sentient being, and the equal capacity for rest. As she indicates at the close, though, all of these other features are derivative of, and so inferable from knowledge of its single essential quality: ‘the possibility of motion’.

To summarize again. Space and time are both real objects in the world that have their own essences, and as such their own causal powers. The causal power of time is to provide for the continued self-same existence of objects, and the possibility of those objects combining to produce changes in each other. The causal power of space is to provide for the possibility of motion of self-same or changing objects. While neither time nor space have the power to affect objects in any ways other than these, and so do not of themselves have the power to affect our organs of sense or mind, they can nonetheless be regarded as the causes of our perception of them insofar as the complex objects that do so affect us have time and space as component parts. Thus, it is Shepherd’s own accounts of space and time that resolves the apparent tension with which we began. In light of those accounts, Shepherd is free to hold that time and space cannot, in themselves, effect any changes in objects, but also that they are the causes of our perception of them.²⁰

²⁰ Earlier versions of this paper were presented at TEMPO 2023 at Washington University, St. Louis and the Conference in Honor of Don Garrett at New York University. I would like to thank the participants at those conferences for their insightful questions and helpful feedback, especially

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