

# On Mary Shepherd's *Essay upon the Relation of Cause and Effect*<sup>1</sup>

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## 1 Overview

Mary Shepherd (1777–1847) was appreciated in her day by those who knew her—geologist Charles Lyell said of her that she was an “unanswerable logician, in whose argument it was impossible to find loophole or flaw”; William Whewell, inventor and exemplar of the term ‘scientist,’ used one of her two treatises in a course at Cambridge; the poet Samuel Taylor Coleridge drafted a poem describing her as “a desperate scholar,” which any true philosopher will take as a great compliment. Her work since fell into obscurity, however. Of late, Shepherd’s work has gotten a bit more attention, both as offering certain novel criticisms of the doctrines of Berkeley and Hume (see Atherton 1996 and Rickless 2018) and with an eye to considering certain of her positive views (see Bolton 2010, LoLordo 2019, Boyle 2020, and Landy 2020). This recent activity is all to the good, but Shepherd remains almost criminally underrated.

For one thing, Shepherd doesn’t just criticize the doctrines of Berkeley and Hume—in my estimation she decimates them, politely but ruthlessly, with the skill of a surgeon who is not taking any chances that whatever-it-is might survive. Some commentators have suggested that certain of Shepherd’s arguments are not entirely successful. This would not be surprising, if true—few arguments are completely airtight—but I’m more convinced by her than by them.<sup>3</sup> Even more deserving of attention and appreciation are Shepherd’s positive views about the nature of reality and our access to it—views which are not just novel and interesting but considerably more plausible than those of her opponents, and which are as relevant as ever so far as explorations into our options in contemporary metaphysics and epistemology are concerned. Either of Shepherd’s two major works—the 1824 *Essay Upon the Relation of Cause and Effect, Controverting the Doctrine of Mr. Hume, Concerning the Nature of that Relation*<sup>4</sup> (henceforth:

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<sup>3</sup> Most saliently, Atherton (1996) levels several complaints about Shepherd’s critique of Berkeley’s idealism, but as Rickless (2018) shows, these complaints are undeserved. The only flaw Rickless identifies in Shepherd’s critique is the non-injurious one according to which her charge that Berkeley’s main argument for idealism equivocates on ‘perceive’ would be better framed as involving an equivocation on ‘perception by sense’; this tweak aside it remains that “Shepherd has identified, at least in general terms, both the location and the essential nature of the problem with [Berkeley’s] argument,” and more generally that “no philosopher, none of [Berkeley’s] contemporaries and no other successor of his over the course of three centuries, was able to get as close as she did to the nub of the issue” (329).

<sup>4</sup> See McRobert 2000, vol 1.

ERCE), or the 1827 *Essays on the Perception of an External Universe, and Other Subjects Connected with the Doctrine of Causation*<sup>5</sup> (henceforth: EPEU)—would do by way of illustrating the importance of her work. Here I'll focus on her first treatise and the accounts of the epistemology and metaphysics of causation that she advances therein.

After a brief setup, I canvas certain of her trenchant objections to Hume's argumentation; I then present the positive core of her response to Hume, which consists in providing novel accounts of how reason alone or reason coupled with experience can justify, first, that every effect must have a cause, and second, that it is necessary that like causes produce like effects. Among other contributions, here Shepherd provides a distinctively metaphysical argument for the claim that nothing can begin to exist 'of itself' (going beyond an appeal to the Principle of Sufficient Reason, in particular), and leverages difference-making considerations to make the case that a single 'experimentum crucis' can justify causal belief (anticipating Mill's 'method of difference'). I close by highlighting salient features of Shepherd's metaphysics of causation, whereby causation is singularist and local (anticipating Ducasse and Anscombe) and involves synchronic interactions (anticipating Mill's and certain contemporary accounts), and according to which objects are essentially characterized by their causes and effects (anticipating contemporary causal or dispositional essentialist positions).<sup>6</sup>

## 2 The project and its stagesetting

Shepherd presents her project in ERCE as primarily critical of Hume's doctrines concerning causation, and in particular of his views and argumentation according to which neither reason nor experience, individually or together, can justify the beliefs that, first, "it [is] necessary [that] every thing whose existence has a beginning should also have a Cause" and second, that "such particular Causes must necessarily have such particular Effects," so that the only basis for such beliefs lies in "custom acting on the imagination," which latter position forms the basis for Hume's 'constant conjunction' (or 'regularity') account of causation. While (as we'll see) Shepherd criticizes many specific aspects of Hume's argumentation, her primary line of objection involves showing, as per her positive views of the matters at hand, how either reason alone or reason coupled with experience can justify the beliefs in question, in a way that in turn supports her original and very different account of causation, as well as certain concomitant

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<sup>5</sup> See McRobert 2000, vol 2, and Lolordo 2020.

<sup>6</sup> Attention to Shepherd's second treatise suggests other views for which she deserves historical credit, including the view, commonly attributed to Russell (1912/1967), that the existence of a mind-independent external world is supported by an inference to the best explanation of the pattern of our experiences. As Shepherd summarizes the line of thought, "the readiness [...] to appear when called for by the use of the organs of sense, mixed with the reasoning, that the organs of sense and mind being the same, a third set of objects is needed in order to determine those perceptions in particular which are neither the organs of sense nor mind in general, forms together the familiar reason, (the superinduced sensation,) which yields to all,—infants, and peasants, as much as to wise men, the notion of the continual existence of objects unperceived" (EPEU 15). As Atherton (1996) puts it, "The idea is that various relations among our sensations constitute a proof there are external existences, because, roughly speaking, the existence of the sensations we experience, related as they are, could not be explained unless external bodies existed" (350).

views (which I unfortunately will not have space to discuss here) pertaining to the uniformity of nature and the practical question of what guides human expectation and action.<sup>7</sup>

Before getting to (certain of) Shepherd's critical and constructive views, I'll highlight two ways in which she perspicuously sets the stage for her discussion, which will also serve to remind the reader of certain of Hume's lines of thought.

## 2.1 The import of the project

Prior to presenting Hume's doctrines, Shepherd registers that she will not be completely adhering to his request, in the *Essays*, to ignore the previous *Treatise* as a product of his "juvenile" reasoning. One difference between these works is that in the *Treatise*, but not in the *Essays*, Hume explicitly considers what justification there might be for the belief that "every thing whose existence has a beginning should also have a Cause" as well as the belief that "such particular causes must necessarily have such particular effects," whereas in the *Treatise* only the latter belief is explicitly treated. As Shepherd notes, however, Hume's reasons for rejecting the two beliefs in the *Treatise* were ultimately of a piece. In the *Treatise* Hume first argues, on grounds that he can conceive otherwise, that the need for a new existence to have a cause is not justified by reason:

The separation [...] of the idea of a cause, from that of a beginning of existence, is plainly possible for the imagination, and consequently the *actual* separation of these objects is so far possible, that it implies no contradiction, nor absurdity, and is, therefore, incapable of being refuted by any reasoning, from mere ideas; without which it is impossible to demonstrate the necessity of a cause. (*Treatise*, §1.3.3.3)

This much leaves open whether the belief in the necessity of a cause might arise from "observation and experience"; and in the *Treatise* Hume registers that he will "sink this question in the following: Why we conclude that such particular causes must necessarily have such particular effects? Because the *same answer will serve for both questions*" (§1.3.3.9). And as above, Hume's answer is ultimately that neither belief is justified, and that commitment to each is ultimately due to a kind of psychological projection born of customary experience.

Now, notwithstanding that Hume restricts his focus to the second question in the *Essays*, Shepherd argues that he continues to be committed to the first belief's being unjustified:

"That Cause and Effect are distinct and separable;" so "that any object may be conceived, as therefore capable of beginning its own existence," must be considered as among the notions adopted in the *Essays*: what else is the meaning of such propositions as these: "There appears not throughout all nature, any one instance of connection, as conceivable by us;" "one event follows another," "but we never can observe any tie between them, etc." Indeed, the not admitting any "relations of ideas," or "any reasonings a priori," (so as to be capable of supporting the idea of CAUSATION as a creating principle absolutely necessary in the universe) is but

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<sup>7</sup> As LoLordo (2019) puts it, "Like Reid and Kant, Shepherd aims to refute Hume by providing a better alternative" (1).

repeating “the juvenile ideas” of the *Treatise*, and casting them anew in these later pieces. (38–39)

Correspondingly, Shepherd observes, Hume’s reasons for rejecting necessary causal connections in the *Treatise* serve just as well—assuming they go through—to undercut the reasons for thinking that every beginning of existence must have a cause. And this in turn, she observes, undercuts the primary reason to believe in God, as the requisite first or primary cause of all else. So while taking the *Essays* in isolation from the *Treatise* might suggest that Hume’s focus in his later work pertains just to a somewhat abstruse issue in the metaphysics of causation (albeit one having import for our practical deliberations), Shepherd flags that a key motivation for the existence of some eternally existing generative principle—God, on the usual construal—is also at stake.

## 2.2 The presentation of Hume’s view

Shepherd’s exegesis of Hume’s position receives a dedicated chapter, largely in the form of linked direct quotes from the *Treatise* and the *Essays*.<sup>8</sup> Why so much direct quotation? As she observes:

In every controversial work, much obscurity appears in an author’s arguments, on account of the opinions of his adversary not being distinctly understood; owing either to partial quotation, or mistaken statement: I therefore mean to obviate all chance of any misunderstanding on that ground, by giving the adversary’s opinions upon the controverted doctrine in his own words; taking care to leave out only extraneous matter, and to alter the arrangement in such a manner as to form at once a clear and concise, a fair and intelligible view of the whole subject. (7)

I highlight this exegetical strategy since it’s evidence of her general dialectical perspicuity. Shepherd was well-aware that as a woman aiming—somewhat unusually for the time—to criticize a prominent male figure, and moreover as regards a view that was “rampant [and] widely spread,”<sup>9</sup> mere paraphrase of Hume’s view would have offered the opportunity for others to dismiss her work from the getgo as missing the target, somehow or other. Smart indeed, then, for Shepherd to let Hume perform his own exegesis, such that there is really no denying that he offered the arguments and held the views which will be the subject of her critique.

## 3 A few representative objections

I next canvass a few of the objections that Shepherd directs at specific aspects of Hume’s discussion, to give the reader a feel for the remarkable precision and incisiveness characteristically on display in her work. These objections include:

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<sup>8</sup> Shepherd does similarly in presenting Berkeley’s views in EPEU.

<sup>9</sup> As Robert Blackey put it in his *History of the Philosophy of Mind*: “When [Shepherd] undertook a public refutation of these erroneous notions on cause and effect, it must be remembered it was at a time when they were most rampant, and widely spread over the northern parts of Britain in particular” (1848, v. 4, 43).

1. That Hume's glosses on the topic at hand make no sense as they stand, and must be revised:
 

To make any meaning whatever of the proposition, "We may imagine causes to exist separate from their effects;" the objects we call *causes* are not to be imagined as *causes*, but may be supposed *not to cause any thing*, but to exist without *determining their own effects*, or *any others*; that is, causes and their effects are so evidently distinct, that they may be imagined to be unconnected objects, that are *not causes and effects*, and to exist separately without a contradiction, though they are named expressly as signs of the ideas we have, that they are necessary to one another. (33)
2. That Hume's statement of the second question—"Why we conclude that such particular Causes must necessarily have such particular Effects?"—is also inapt:
 

The question, however, ought to stand thus, "why LIKE CAUSES must necessarily have LIKE EFFECTS?" because what is really enquired into, is the general notion of necessary connexion, between all like Cause and Effect; and by thus putting the question respecting particulars only, although they might be included in an universal answer, yet no answer applicable to them MERELY, could authorize an universal axiom. The manner of stating the enquiry in the Essays, is also too vaguely expressed, (although it be evident that it is the general relation which is enquired into.) Mr. Hume says, "we will now enquire, how we arrive at the knowledge of Cause and Effect." (*Essays*, Sec. 4. P. 27) *It ought to be stated*, how we arrive at the knowledge of the *necessary connexion*, between *like* Cause and Effect? (40)
3. That in the course of discussing the second question, Hume shifts to a different question:
 

If it should be asked, (as Mr. Hume presently does,) how is it known when objects are similar upon any two occasions; the "sensible qualities may be the same, and not the *secret powers, upon which the Effects depend*?" I answer, this is to *shift* the question from the examination of *like Causes supposed*, to the consideration of the *method whereby their presence may be detected*. (60)
4. That Hume errs in supposing that whatever he can conceive (e.g., there being a new existent without a cause, or some similar cause producing a different effect) is genuinely possible:
 

Mr. Hume makes also a great mistake in supposing because we can conceive in the fancy the existence of objects contrary to our experience, that therefore they may really exist in nature; for it by no means follows that things which are incongruous in nature, may not be contemplated by the imagination, and received as possible until reason shows the contrary. (83)
5. That Hume's argument that the belief in necessary causal connection is justified by custom, not reason, proceeds by assuming what it is to be proven:
 

The sum of Mr. Hume's argument is, that we knowing nothing of the "secrets of nature," we cannot know there is really a necessary connection between objects; but *imagining* there is [such a connection], this *imagination* arises, from a CUSTOMARY OBSERVATION, of *the invariableness of their antecedence and subsequence*;—which invariableness, however, does not prove, that each connexion may be more than an *insulated causal event*; not obligatory in nature; therefore *other subsequent* events might, without a contradiction, be imagined to

happen after *similar antecedents*, and a *different order of events* might be supposed in the “course of nature.”

Now shortly the whole of this reasoning the *possibility of nature altering her course*, is but a circle! For the argument is invented to show that CUSTOM *not* REASON, must be the only ground of our belief in the relation of Cause and Effect.—But it is *impossible to imagine such a change in nature*, unless *reason* were previously excluded as the principle of that relation;—*and it is impossible to exclude reason as the principle of that relation*, except by supposing that *nature may alter her course*. (86–87)

6. That “Mr. Hume’s three definitions of the relation of Cause and Effect are, in many respects, faulty, and not borne out by his own arguments” (64). To start, his first, ‘constant conjunction,’ definition is unsupported by lights of his own argument:  
He defines a Cause “an object followed by another, and where all the objects similar to the first are followed by objects similar to the second.”—Now if he means an object that will in *future*, as in *past* times, be always followed by another; an *invariable* necessity in the antecedent to be followed by its subsequent, his whole argument tends to prove the *contrary*, and to show that experience has power to answer for the *past* only, and cannot for the future. (64)
7. That his second, counterfactual, definition is not a mere ‘in other words’ variation on the first, and in any case is again unsupported by his previous argumentation:<sup>10</sup>  
He goes on to say, “or in other words, where if the first object had not been, the second had never existed;” but this idea expresses a much stricter necessity of connexion than does the relation of any number of objects, which had only followed each other in *past time*, however often their antecedency and subsequency had been repeated. Such a necessity is contradicted the whole way by the argument. It is quite another sentiment, from that which arises from the ideas of always *before* and *after*. That which requires another object to its existence, must be *necessarily connected* with it; and I contend that it is so connected [...]. But Mr. Hume says, it is only connected, as an invariable subsequent, must always be understood to require its invariable antecedent.—But I retort, Why does the definition assume more than the argument can possibly bear out? (64–66)
8. That Hume’s first definition of causation, as well as his third, ‘association of ideas,’ definition, fail to provide sufficient conditions on causation:  
In every just definition, the ideas that are included in the terms, must not suit any other object. Now many objects are invariably antecedents and subsequents, that are not Causes and Effects [...]. (67)  
[T]hat the thought always being carried by the appearance of one object to the idea of another, proves nothing but an accidental though strong association of ideas; and is in like manner objectionable, on account of suiting other objects than the thing defined. Every Andrew is not necessarily “Simon Peter’s

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<sup>10</sup> Shepherd also observes that by Hume’s lights (though, given her causal essentialist view of objects, not her own) “The second definition is also erroneous, because although similar causes must have similar effects, yet diverse causes may produce the same effects also—therefore the second object might exist without the first, by the operation of any other cause efficient to it” (67).

Brother,” although my thought always recurs to that idea, upon every mention of the name of Andrew. (68)

9. That Hume’s account of causation as (merely) involving certain associations of ideas is circular, since his theory of ideas assumes that impressions cause ideas:

[Hume claims that] “Every idea is copied from some preceding impression (idea being an Effect *derived* from impression as its Cause). In all single instances of the operation of bodies there is nothing that produces, nor consequently can suggest the idea of necessary connection. But when *many* instances appear, we *feel* a new impression, a customary connexion in the thought, between one object and its usual attendant.”

Now this method of placing the argument is but the statement of *another circle*; for *causation* is used as the very principle which lies at the foundation of the whole system; and afterwards we are desired to search for the *impression*, which is the CAUSE of that EFFECT, viz. the *idea causation*. (90–91)

Shepherd doesn’t belabour these objections, since she has bigger fish to fry; indeed, as in the case of the terminological infelicities, she sometimes mentions Hume’s failings only to fix them up on his behalf. Nonetheless, many are individually quite devastating. That Hume ‘switches the question’ from an investigation into the grounds for believing that like Causes produce like Effects to an investigation into the grounds for believing that superficial appearances of objects or events are tracking the same ‘secret powers’—i.e., into an investigation into how one knows whether some state of affairs is in fact a ‘like Cause’—is problematic, not just because it changes the subject, but because we *don’t* believe the revised claim. Everyone will agree that what *appear* to be like Causes might not produce like Effects, so that, e.g., what superficially appears to be bread might fail to nourish us, and so on. That Hume assumes that his off-the-cuff conceivings infallibly track genuine possibility is also problematic, given the heavy weight these conceivings must bear in his argument; I’m inclined to agree with Shepherd that the only way for these conceivings to do the work that Hume needs them to do is if the conclusion that they are supposed to establish (namely, that the beliefs in question are not justified by reason) is tacitly assumed. Shepherd is kind to Hume in calling his definitions of causation ‘multiply faulty’: jointly inequivalent, individually problematic, and extending far beyond anything that Hume’s argumentation could be reasonably taken to have established, they are a mess. Perhaps most devastating is Shepherd’s charge that Hume’s account of causation as involving an association of ideas is fatally circular, in that Hume’s account of ideas crucially relies on a causal relation—the one holding between impressions and ideas—that in the nature of the case cannot be analyzed in the terms of his account.<sup>11</sup>

Even independent of Shepherd’s positive arguments to come, it is striking how careless she reveals Hume’s argumentation to be.

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<sup>11</sup> This objection (#9, above) is closely associated with one according to which Hume’s definition is extensionally incorrect, since it can’t handle the case of an impression causing an idea.

## 4 On the justification for the claim that every new existent must have a cause

In this and the next sections we turn to Shepherd's positive views, which constitute the constructive core of her critique of Hume.

### 4.1 The initially empty world thought experiment

Having highlighted the continuing import of Hume's doctrines to the question of whether every beginning of existence has a cause, Shepherd directs her attention to undercutting Hume's claim that this belief is not justified by reason, by means of the following thought experiment:

Let the object which we suppose to begin its existence of itself be imagined, abstracted from the nature of all objects we are acquainted with, saving in its capacity for existence; let us suppose it to be no effect; there shall be no preventing circumstances whatever that affect it, nor any existence in the universe: let it be so; let there be nought but a blank; and a mass of whatsoever can be supposed not to require a cause START FORTH into existence, and make the first breach on the wide nonentity around; now, what is this starting forth, beginning, coming into existence, but an action, which is a quality of an object not yet in being, and so not possible to have its qualities determined, nevertheless exhibiting its qualities? If, indeed, it should be shown, that there is no proposition whatever taken as a ground on which to build an argument in this question, neither one conclusion nor the other can be supported; and there need be no attempt at reasoning. But, if my adversary allows that, no existence being supposed previously in the universe, existence, in order to be, must begin to be, and that the notion of beginning an action (the being that begins it not supposed yet in existence), involves a contradiction in terms; then this beginning to exist cannot appear but as a capacity some nature hath to alter the presupposed nonentity, and to act for itself, whilst itself is not in being. The original assumption may deny, as much as it pleases, all cause of existence; but, whilst in its very idea, the commencement of existence is an effect predicated of some supposed cause, (*because the quality of an object which must be in existence to possess it,*) we must conclude that *there is no object which begins to exist, but must owe its existence to some cause.* (35–36)

Here we see Shepherd addressing, in bracing fashion, the question of what it would be for something to come to exist, stripping away all extraneous features in a way that serves, in turn, to provide the basis of a distinctively metaphysical argument for the claim that everything that begins to exist must have a cause.

I'll say more about Shepherd's argument shortly, but to start it's worth noting the originality and potential dialectical force of her approach. As Shepherd points out, in considering Hume's first question, Clarke and Locke "felt the involved absurdity so great, that they passed over the first question as too ridiculous, probably, to consider formally" (37). In other words, Clarke and Locke took for granted as intuitively obvious that everything that begins to exist must have a cause, which in turn put Hume in position to accuse them of begging the question, and so engaging in "fallacious" reasoning. Relatedly, though the further theistic upshot of Shepherd's argument is in the tradition of arguments for the existence of God that appeal to the truth of the

claim that ‘nothing comes from nothing’ or *ex nihilo nihil fit* (what Schliesser forthcoming calls a “weak-ish version of the [Principle of Sufficient Reason] PSR”), Shepherd neither takes this claim for granted nor supports it by appeal to explanatory considerations of the sort operative in the PSR. Rather, and very roughly, she supports this premise on grounds that for something to come to exist there must first be an action of its beginning to exist, but in the case at hand—a case to which Hume is clearly committed—there is nothing available to perform the action at issue.

To expand on and assess this line of thought, it’s first useful to register that it takes the form of a *reductio*, as follows:

1. An object—say, *X*—could begin to exist without a cause. (Assumed for *reductio*)
2. If *X* could begin to exist without a cause, then *X* could begin to exist in an initially empty universe *U*.
3. Therefore, *X* could begin to exist in an initially empty universe *U*. (1, 2)
4. *X*’s beginning to exist in *U* is an action.
5. An action is a quality of an existing object.
6. Therefore, *X*’s beginning to exist in *U* is a quality of an existing object. (4, 5)
7. Since *U* is empty prior to *X*’s existing, no object exists in *U* to possess the quality of *X*’s beginning to exist—not an entity besides *X*, for there are no such entities, and not *X*, for *X* does not yet exist. (3)
8. Therefore, it is not the case that *X*’s beginning to exist in *U* is a quality of an existing object. (7)
9. An object could not begin to exist without a cause. (1, 6, 8)

How does Shepherd’s *reductio* fare? To start, as she notes, her argument requires that “no existence being supposed previously in the universe, existence, in order to be, must begin to be.”<sup>12</sup> In other words, it has to be, first, possible that there is a universe that is initially completely empty and which later contains some existent, and second, that in such a case said existent must at some point ‘begin to be.’ Hume is clearly committed to there being a universe that is initially empty and later comes to contain something, as a concomitant of his view that all goings-on are “entirely loose and separate.” It is moreover plausible that for something to come into existence, it must begin to be—that is, begin to exist. There is initially nothing; later there is something; at some point, the latter entity must begin to exist. So far, so good. Next, it is also plausible that any such beginning to exist would be an action of some sort—at least in a lightweight sense of ‘action’ as involving some kind of happening. Perhaps the weakest premise in Shepherd’s argument involves the claim that the action of the new existent’s beginning to exist must be ‘a quality of an existing object.’ Why couldn’t a beginning to exist just happen, so to speak, without some existing object performing the action? Fair enough, but I think a closer examination of what Shepherd is getting at here shows that her argument doesn’t require that the

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<sup>12</sup> Note that Shepherd here flags that her argument generalizes to address not just new objects, but new existents of any ontological category.

action at issue be performed by an object possessing some quality, and indeed goes through even if this action rather involves—or just is—an existing (objectless) event or other feature of reality. For her purposes, all that is required is that any kind of happening—whether object-involving action or objectless event—requires that *something* exist to perform the action or constitute the event of the happening. *Something* has to exist for there to be an action or event of “starting forth,” *something* has to exist for there to be “the first breach on the wide nonentity around.”<sup>13</sup> That much seems plausible, however: how could there be a happening (action, event) without something existent to perform or constitute the happening? But then the problem remains that in the empty world scenario nothing exists to perform or constitute *X*’s beginning to exist—not some existent besides *X*, since by assumption there aren’t any other existents, and not *X* itself, since by assumption *X* doesn’t yet exist.

I think what Shepherd is getting at here is the metaphysical reasoning underlying the intuitive supposition that ‘nothing comes from nothing.’ Anything that comes into existence has to begin to exist—there has to be a transition from the state of non-existence to the state of existence of the entity in question. But if there really is nothing, there isn’t anything to perform the associated action, constitute the associated event—except, perhaps, the something itself, which doesn’t make sense, since by assumption it doesn’t yet exist. As she puts it: “every mind feels it so, because it perceives that an *alteration* could not begin of itself” (67).

One might wonder if this line of thought has been empirically undercut by contemporary science. Don’t virtual particles ‘pop’ into existence in a way making room for something to begin to exist without having any cause? No, for such a case isn’t one where nothing exists. On the contrary: the field and the laws of physics (whatever those are, exactly) exist and serve as an existent basis for the coming-to-be of the virtual particles. Similar observations are commonly made in discussions of cosmology. Supposing the universe had a beginning, then what came before that? Could the universe have come from nothing? Even those thinking that there is a sense in which this makes sense qualify that the laws of physics (some kind of existent, however characterized) were still (somehow) around, as in a recent article on the topic:

Although a universe, in Vilenkin’s scheme, can come from nothing in the sense of there being no space, time or matter, something is in place beforehand—namely the laws of physics. Those laws govern the something-from-nothing moment of creation

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<sup>13</sup> The revised argument would then read:

1. An object—say, *X*—could begin to exist without a cause. (Assumed for reductio)
2. If *X* could begin to exist without a cause, then *X* could begin to exist in an initially empty universe *U*.
3. Therefore, *X* could begin to exist in an initially empty universe *U*. (1, 2)
4. *X*’s beginning to exist in *U* is a happening (action, event).
5. A happening (action, event) requires that an entity exist to perform or constitute the happening.
6. Therefore, *X*’s beginning to exist in *U* requires an existing entity. (4, 5)
7. Since *U* is empty prior to *X*’s existing, no entity exists in *U* to perform or constitute *X*’s beginning to exist—not an entity besides *X*, for there are no such entities, and not *X*, for *X* does not yet exist. (3)
8. Therefore, it is not the case that *X*’s beginning to exist in *U* requires an existing entity. (7)
9. An object could not begin to exist without a cause. (1, 6, 8)

that gives rise to our universe, and they also govern eternal inflation, which takes over in the first nanosecond of time. (Nadis 2013)

The brilliance of Shepherd's case lies in her explicitly specifying—what Hume must grant, on pain of undercutting his supposition that “everything is entirely loose and separate”—that in the case at issue, *nothing whatsoever* exists, prior to the purportedly uncaused new existence.

## 4.2 Further considerations

How might Hume respond? Shepherd's positive answer to the question ‘why we believe that every new existence has a cause’ involves unpacking the concept of a new existent in a way that reveals the need for a cause via the connection to something needed to initiate ‘starting forth’ or ‘beginning to exist,’ which need in turn reveals that the assumption that a new existent doesn't have a cause leads to contradiction. All this is in line with Hume's own methodology, according to which justification that proceeds by means of ‘reason’ involves there being ‘relations between ideas’ of the sort leading to “contradiction [or] absurdity” under the assumption that the relations aren't in place. That Hume can ‘conceive’ of there being a new existent without a cause doesn't count for much in the face of these considerations (as per Shepherd's objection #4, above). Indeed, she might point to the fact that it is crucial, in order to appreciate the relation existing between the ideas of a new existent and a cause, to consider the sort of case at issue in her thought experiment. Otherwise, there is a danger that any purported ‘conceiving’ of a new existent coming to be without a cause might be tacitly a conceiving of a new existent coming to be with some unknown cause. So far, so bad for Hume.

That said, if Hume or others fail to find her argument convincing, Shepherd offers as backup the consideration—going beyond anything Locke or Clarke register—that she is as much within her rights to maintain that it is necessary that every new existent has a cause as Hume is within his rights to maintain the contrary. As above, Hume complains against Locke and Clarke that their claims that it would be absurd to suppose that a new existent could lack a cause beg the question against his claim to the contrary, and hence count as ‘fallacious’ reasoning. As Shepherd correctly notes, however, Hume doesn't provide any substantive independent reason in support of his view that an existent *doesn't* require a cause beyond his finding this claim intuitively plausible, and hence he is ‘begging the question’ against those who find the claim absurd just as much as vice versa: “yet his own argument, the whole way, consists in the possibility of imagining an effect ‘non-existent this minute and ‘existing the next; and does not himself consider any other ‘sort of being possible’ ”.

Given the preceding considerations, she concludes with a request:

Before I proceed further, I wish my reader to grant the proposition, “That a Being cannot begin its existence of itself;” because I mean to make use of it in my further reply to Mr. Hume's doctrines; and, unless this step is allowed, I can make no further progress in this argument. (39)

As above, the proposition is metaphysically defensible (as per her thought experiment) and independently plausible (as per the ‘nothing comes from nothing’ intuition that even scientists accept). Moreover, and in any case, its endorsement isn't on any *worse* ground, epistemically speaking, than Hume's denial. Shepherd is admirably clear about the fact that she will making heavy use of this proposition in what follows—a fact which may itself lend further support to the

proposition, insofar as it leads to a metaphysics and epistemology of causation that is considerably more plausible than one based on its rejection.

## 5 On the justification for the claim that like causes and effects are necessarily connected

Shepherd next turns to considering the question (clarified, as above) of “how we arrive at the knowledge of the *necessary connection* between *like Cause and Effect*” (40), registering that “it is my intention to shew [...] that it is Reason, and not Custom, which guides our minds in forming the notions of necessary connexion, of belief and of expectation” (42). Her argumentation presses Hume in ways that hit the sweet spot of originality and plausibility, and which moreover have important ramifications for the epistemology and metaphysics of causation as well as for the metaphysics of objects.

Her offensive strategy proceeds in two steps. First, she argues, relying in part on the foundational premise (motivated by her previous reductio) that ‘a being cannot begin its existence of itself,’ that experience of constant conjunction is not required for us to believe that a causal relation is in place. Rather, via an “*experimentum crucis*,” where “a single experience [...] awakens in the mind the required process of reasoning” we can come to believe that a particular object in certain circumstances causes a given effect. Second, she argues that we are justified in believing that a ‘like’ object in ‘like’ circumstances will produce a ‘like’ effect. Let’s walk through this reasoning more slowly, in Shepherd’s words.

### 5.1 The *experimentum crucis* argument

As regards the first step, she says:

Objects which we know by our senses do begin their existences, and by our reason know they cannot begin it of themselves, must begin it by the operation of some other beings in existence, producing these new qualities in nature, and introducing them to our observation. The very meaning of the word Cause, is Producer or Creator; of Effect, the Produced or Created and the idea is gained by such an observance of nature, as we think is efficient in any given case, to an *experimentum crucis*. Long observation of the invariableness of antecedency, and subsequency, is not wanted; many trials are not wanted, to generate the notion of producing power.

One trial is enough, in such circumstances, as will bring the mind to the following reasoning.

Here is a new quality, which appears to my senses:

But it could not arise of itself; nor could any surrounding objects, but one (or more) affect it; therefore that one, (or more) have occasioned it, for there is nothing else to make a difference; and a difference could not “*begin of itself*.” (43–44)

Shepherd illustrates the line of reasoning here with the case of the eye:

This is an argument, which all persons, however illiterate, feel the force of. It is the only foundation for the demonstrations of the laboratory of the chymist; which all life resembles and so closely, in many instances, that the philosopher, and the vulgar [...] each knows that in certain given circumstances, the closing of the Eye will eclipse the prospect, of nature; and the slight motion of reopening it, will restore all the objects to view. Therefore, the Eye (in these circumstances,) is the Cause or Producer of vision. ONE trial would be enough, under certain known circumstances. Why? not from “custom,” because there has been one trial only; but from Reason, because vision not being able to produce itself, nor any of the surrounding objects by the supposition; it is the Eye which must necessarily perform the operation; for there is nothing else to make a difference; and a different quality could not “begin its own existence.” (44–45)

Hence reason, aided by experience, suffices to determine a cause-effect relation in a given case—even if only one instance of the relation (one ‘trial’) has been experienced. Somewhat more formally, we are justified in accepting the following form of reasoning, leading to knowledge of causes even in the absence of experience of customary conjunction of the cause and effect types in question:

1. Upon introducing object or event *A* (and no other object or event<sup>14</sup>) into circumstances *K* not including object or event *B*, *B* comes to exist.
2. Either *K* caused *B*, *B* caused itself, or *A* caused *B*.
3. *K* didn’t cause *B*.
4. *B* didn’t cause itself (a different quality could not “begin its own existence”).
5. *A* (understood as occurring in *K*) caused *B*.

As a general corollary:

1. Customary conjunction is not required to be justified in believing in the holding of a causal relation between objects or events *A* (or *A*-in-*K*) and *B*.

Before proceeding to the second stage of Shepherd’s argument, let us pause to appreciate that Shepherd here advances what Mill (1843/1973) later describes as the most ‘potent’ of his famous methods for determining cause-effect relations—namely, the ‘method of difference,’ according to which “If an instance in which the phenomenon under investigation occurs, and an instance in which it does not occur, have every circumstance save one in common, that one occurring only in the former; the circumstance in which alone the two instances differ, is the [...] cause, or an indispensable part of the cause, of the phenomenon” (1843/1973, Ch. VIII, §1). Like Shepherd, Mill highlights not just the method but the fact that its use is ubiquitous in both science and everyday life:

It is scarcely necessary to give examples of a logical process to which we owe almost all the inductive conclusions we draw in daily life. When a man is shot through the heart, it is by this method we know that it was the gunshot which killed him: for he

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<sup>14</sup> Thanks to Martha Bolton for flagging the need for this qualifier.

was in the fullness of life immediately before, all circumstances being the same, except the wound. (1843/1973, Ch. VIII, §1)

More generally, in Shepherd's discussion we see an explicit identification of difference-making as key to the epistemology of causes—a methodological approach arguably tacitly operative in motivating and testing Newton's theory of gravity (see Smith 2014). All this points not just to the historical importance of Shepherd's understanding of the epistemology of causation, but also to its independent plausibility. In addition to prefiguring the most important of Mill's methods, Shepherd's reasoning here serves as the basis for her distinctively *singularist* metaphysical account of causation—an account not unlike one which Mill also endorsed, several decades later.

## 5.2 Necessary connection and the foundational principle

To return to the thread: thus far, Shepherd has argued that attention to difference-making considerations can serve as a basis for 'single case' causal inference. Granting this much, what justifies the further belief that causal relations are necessary?

Ingeniously, it is again the proposition that "a being cannot begin its existence of itself" that does the heavy lifting here. For suppose that, as a result of an *experimentum crucis*, we come to realize that a given object or event of type *A* in circumstances of type *K* (for short: *A-in-K*) causes an object or event of type *B*. What guarantees that another object or event of type *A* in circumstances of type *K* will cause an object or event of type *B*? Shepherd points out that—on the assumption that the case at hand really is one involving a 'like cause' (that is, one involving an object or event of type *A* introduced into circumstances of type *K*)—the foundational principle ensures that an object or event of type *B* will ensue. For if *B* were not to occur, then this would count as a difference from (and associated new quality in) a state of affairs in which *B* was present, either involving an object or event *D* different from *B*, or as involving simply the absence of *B*. Such a difference could not 'begin of itself,' however, and so must have been caused or produced by something besides an *A-in-K*. But the assumption of the antecedent goings-on being 'like' the ones which previously caused *B* rules out that any other goings-on are available to produce such a different effect. Consequently, reason, assisted by experience, serves to justify the proposition that like causes necessarily produce like effects. As Shepherd puts it, continuing on from her example of the eye:

It is this sort Of REASONING UPON EXPERIMENT, which takes place in every man's mind, concerning every affair in life, which generates the notion of Power, and necessary Connexion; and gives birth to that maxim, "*a like Cause must produce a like Effect.*" The circumstances being supposed the same on a second occasion as on a former one, and carefully observed to be so; the Eye when opened would be expected to let in light, and all her objects. "I observe (says the mind) in this or any other case, all the preveing circumstances the same as before; for there is nothing to make a difference; and a difference cannot arise without something to occasion it; else there would be a *beginning of existence* by itself, which is impossible." (45)

Somewhat more formally:

1. Upon introducing object or event *A* (and no other object or event) into circumstances *K* not including object or event *B*, *B* comes to exist, and we are thereby justified in believing that *A*-in-*K* caused *B*.
2. It is not necessary that like Causes produce like Effects. (Assumed for reductio)
3. If it is not necessary that like Causes produce like Effects, it could turn out that upon introducing an object or event of type *A* into circumstances of type *K*, no object or event of type *B* comes to exist.
4. It could turn out that upon introducing an object or event of type *A* into circumstances of type *K*, no object or event of type *B* comes to exist. (2, 3)
5. The failure of an object or event of type *B* to occur in the second scenario is a difference which could not ‘begin of itself.’ (A different quality could not “begin its own existence”)
6. But by the assumption of the case as one involving a ‘like Cause,’ there is nothing else in the second scenario to serve as the cause of the difference.
7. It could not turn out that upon introducing an object or event of type *A* into circumstances of type *K*, no object or event of type *B* comes to exist. (5, 6)
8. It is necessary that like Causes produce like Effects. (4, 7)

As a corollary:

1. Customary conjunction is not required in order to be justified in believing that it is necessary that like Causes produce like Effects.

Shepherd summarizes by highlighting the ‘compound’ nature of the justification at issue, as drawing from both reason and experience:

It is this compound idea, therefore, the result of the experience of what does take place upon any given trial, MIXED with the reasoning that nothing else could ensue, unless on the one hand, *efficient causes were allowed for the alteration*; or, on the other, that things could “alter their existences FOR THEMSELVES”; which generates the notion of *power* or ‘producing principle,’ and for which we have formed the word. (45–46)

### 5.3 Further considerations

How might Hume respond? As above, Shepherd has provided a basis in reason for the claim that it is necessary that every new beginning have a cause, and moreover (given the parameters of the motivating case) that nothing can begin to exist ‘of itself.’ Now, the first step of her strategy, whereby she makes a case that we can have knowledge of a causal relation after experience of a single instance by means of what is effectively the method of difference, involves an observation of the sort that Hume allows—namely, one which involves resemblances or failures of resemblance. The pattern at issue is one where initially, circumstances *K* do not include some goings-on *B*, and later, circumstances *K* do involve some goings-on *B*, with the only difference being the introduction of object or event *A* into the circumstances. In such a case, the observation of a failure of resemblance is reasonably seen—as Mill, himself an empiricist, acknowledges—as

providing an experiential basis for taking *A* to be a partial or complete cause of *E*.<sup>15</sup> Shepherd prefigures and expands on this line of thought, noting that given the foundational principle that nothing can come to exist of itself, it's not an option to maintain that the difference consisting in the presence of *A* had nothing to do with the difference consisting in the presence of *B*, with *B* simply being responsible for its own 'coming to be.' So far, so bad for Hume.

To be sure, such judgements are fallible, but that's a different issue.<sup>16</sup> Indeed, as discussed above, in the course of Hume's discussion he switches from the question of why we believe that like causes and like effects are necessarily connected to the quite different question of how we come to believe that superficial appearances of objects or events are tracking the same 'secret powers.' If one holds the original question properly fixed, Shepherd's considerations come into play, to establish a justificatory basis, in "reason aided by experience," for believing the claim at issue:

When the *secret powers*, and sensible qualities, are known, or *supposed the same*, the conclusion is demonstrative; *so must be the Effects*. (61–62)

That said, one might wonder if Hume can respond by denying that for an object or event to be 'like' the original *A*, the secret powers as well as the sensible qualities must be 'supposed the same.'<sup>17</sup> Rather, Hume might continue, the characterization of an object or event of type *A* need advert only to its sensible qualities, with its 'powers' being understood in deflationary terms of extrinsic regularities; or (as a variation on the interpretation advanced in Strawson 1992) said characterization might also advert to 'secret powers'—but only of a contingent variety.

Either way, Shepherd has a response. As against the first suggestion, she can reply that a deflationary view of powers (or causation) as a matter of extrinsic regularities is motivated only on the assumption that one cannot be justified in believing in a given causal relation in the single case; but as per the *experimentum crucis* argument, this assumption is false. As against the second suggestion, she can reply that if an object or event of type *A* has certain 'secret' powers, then some explanation for the modal status of those powers as necessary or contingent is required. If the powers are part of the nature of objects or events of type *A*, then this would explain the powers' being necessary. What would explain their being contingent? Hume's story here will again appeal to regularities: our only access to causal facts proceeds via regularities (he will say), but different regularities will generate different powers. And here again, Shepherd will observe that as per the *experimentum crucis* argument, there is no motivation for taking what causes what to be a matter of regularities, and hence no motivation for taking the powers of objects or events to be contingent.

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<sup>15</sup> Interestingly, prior to reading Shepherd I had argued that a Humean could accept singularism about causation on the basis of observations of comings-to-be of resemblances or failures of resemblance; see Wilson 2009.

<sup>16</sup> Moreover, it need not be obvious what exactly the difference maker is as regards a given effect; as regards such cases, Shepherd observes (note, p. 44): "When more trials are needed than ONE, it is in order to detect the circumstances, not to lay a foundation for the general principle, that a LIKE Cause repeated, a LIKE Effect will take place."

<sup>17</sup> Thanks to Martha Bolton for suggesting this response.

Given that she has previously undermined Hume’s motivations for taking the powers of objects and events to be contingent, it is reasonable (and non-question-begging) for Shepherd to understand what it is to be a like Cause as she does---in which case “reason aided by experience” (and most saliently the foundational principle that nothing can begin ‘of itself’) kicks in to justify the claim that it is necessary that like Causes produce like Effects.

## 6 The metaphysics of causation

As in Hume’s discussions, Shepherd’s account of the justification of certain causal beliefs is associated with a metaphysical account of causation. Here I must be brief, due to limitations of space; but the view is so interesting it’s worth putting on the table, if only as a teaser.<sup>18</sup> To start, causes and effects are defined as follows:

A Cause [...] is such 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 of the objects unconjoined. This is really to be a producer of new being.—This is a generation, or *creation*, of qualities not conceived of, antecedently to their existence;—and not merely [as on Hume’s view] an “idea always followed by another,” on account of a “customary association between them.”

An Effect is the produced quality exhibited to the senses, as the essential property of natures so conjoined. Necessary connexion of cause and effect is the obligation qualities have to inhere in their objects, and to exhibit their varieties [...] Power is but another word for efficient cause, or “productive principle;” and signifies the *property* which lies in the *secret nature of objects*, when unobserved by the senses, and which determines the qualities that can be exhibited to them upon every new conjunction. (63–64)

Shepherd’s account of causation has (at least) four distinctive metaphysical features, each of which marks an important point of contrast with Hume’s account(s).

First is that causation is a *singular, local* phenomenon (as later advanced in e.g., Ducasse 1926 and Anscombe 1971). On Hume’s view, whether an object or event *A* causes another object or event *B* is not a matter of (just) the holding of certain facts in the vicinity of *A* and *B*, but is rather a matter of non-local facts about whether goings-on of type *A* (or *A-in-K*), located at other parts of space and time, stand in certain relations of temporal priority and spatial contiguity to goings-on of type *B*, either for a given ‘experiencer’ or (on the sort of objective construal that contemporary neo-Humeans typically endorse) as holding throughout all spacetime. By way of contrast, for Shepherd, whether *A* (*A-in-K*) and *B* are causally related is a local, singular matter; and notwithstanding that the necessary connection between cause and effect types has implications for what happens when ‘like Causes’ occur in other parts of spacetime, these other occurrences do not help constitute the holding of any given instance of the relation.

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<sup>18</sup> For a much more developed and very illuminating exposition of the details of Shepherd’s account of causation, see Bolton 2010.

Second is that causation is a *synchronic* phenomenon: causes and effects occur at the same time. This metaphysical ‘take’ on causal relations is consonant with Newton’s studied neutrality on the operation of forces, which made room for causes and effects (as in the case of gravitational interactions) to be synchronous (and was later advanced in Mill 1843). Notwithstanding this Newtonian imprimatur, one of Hume’s legacies, nearly universally encoded in contemporary accounts of causation of whatever stripe, is that this relation is diachronic. Of course, as Shepherd acknowledges, we can and do speak of an object or event existing prior to an effect as ‘the cause’ or ‘a cause.’ On her view, however, this designation signifies just that the temporally antecedent object at issue is one of those objects or circumstances that, when conjoined with some others, constitutes a new nature with new qualities—i.e., the effect:

“*Antecedency and subsequency,*” are therefore immaterial to the proper definition of Cause and Effect; on the contrary, although an object, in order to act as a Cause, must be in Being antecedently to such action; yet when it *acts as a Cause*, its *Effects* are *synchronous with that action*, and are *included in it*; which a close inspection into the nature of cause will prove. Each conjunction of bodies, (now separately in existence, and of certain defined qualities,) produces upon their union those new natures, whose qualities must necessarily *be in, and with them, in the very moment of their formation*. Thus *the union of two distinct natures*, is the *cause, producer or creator* of another [...] the cause has not acted, is not completed, till the *union* has taken place, and the new nature is formed with all its qualities, *in, and about it*. (49–50)

Indeed, cause and effect are ultimately just different construals of one and the same state of affairs:

Effects are nothing but those same conjunctions of qualities, which in other words are admitted as similar causes, in the supposition of the question. The objects (whose *union is necessary* to a given result,) must certainly exist, *antecedent* to such an union. But it is *in their UNION*, there exists those *newly formed objects*, or masses of qualities called *Effects*, which are therefore *identical* with the *similar cause*; for in *this union*, Cause and Effect are *synchronous*, and they are but different words for the same *Essence*. (57)

For example, while we may speak of the fire as a cause of the discerptibility of the wood, in fact it is the union of fire and wood that is both cause and effect:

Fire and wood must be antecedent to combustion, no doubt; but in the *union of Fire and Wood*, there exists immediately *combustion* as a new event in nature; —also in this union exists the similar *cause* allowed by the *data*, whilst combustion is also termed the *Effect* of the union of Fire and Wood [...] . (57)

Third is that causation is something like the coming-to-be-instantiated of a new property (or properties) upon the coming together—the ‘union’—of distinct objects or events. This is a fascinating idea! While it might be cashed out in various ways, one clear connection is to contemporary accounts on which causation involves the mutual manifestation of powers or dispositions (see, e.g., dispositional or powers-based accounts along lines of Martin 1993 and Williams 2019). Here again, Shepherd was early on the scene in identifying a new position in causal-metaphysical space.

Fourth is that causation is deeply implicated in the *natures* of the objects or events involved:

If then an existence now in being, conjoined with any other, forms thereby a new nature, capable of exhibiting new qualities, these new qualities must enter into the definition of the objects; they become a part of their natures; [...] the new qualities, that are named effects, are expected without a doubt to arise upon every such conjunction; because, they as much belong to this newly combined nature, as the original qualities did to each separate nature, before their conjunction. (47)

In advancing the thesis that the effects associated with an object are essential to it, Shepherd aims to undercut the distinction between the supposed properties or qualities of an object and its effects. For example, on her view, the discernibility of a fire is just as essential to it as its involving a flame or having a certain color. Yet again, we have in Shepherd's work a clear precursor to salient contemporary views (as per, e.g., Shoemaker 1980 and Bird 2007) on which powers or dispositions are essential to the objects or the features they possess.

## 7 Concluding remarks

Here I have only had opportunity to briefly outline some of the main critical observations, argumentative strategies, and positive views manifest in Shepherd's ERCE. But this much suffices, I warrant, to show that she is an intellectual force to be reckoned with, deserving of far more scholarly attention than she has been given thus far. Those teaching modern philosophy would do well to include Shepherd on their syllabi, if for no other reason than to give students a sense of how someone sharp (sharper than Reid, for example) might go about skewering Berkeley's idealism or Hume's empiricism. Shepherd's critique of Hume in particular is also of great contemporary interest, reflecting that Hume's legacy—that is, a world view on which not just causes but everything is foundationally disconnected (as per 'Hume's Dictum'), and causes and laws are mere systematizations of patterns in the contingently sprinkled arrangement of little bits—continues to play a large and influential role in contemporary analytic metaphysics.<sup>19</sup>

Positive alternatives are needed. Contemporary metaphysicians resisting Hume's siren call in favor of views on which causal relations are necessary, dispositions are essential to objects and properties, and powers are foundational in the order of metaphysical explanation, often cite Aristotle as their philosophical forebear. That's fine, but I suggest that in Shepherd non-Humeans have their true forebear: someone whose positive accounts of the epistemology and metaphysics of causation (and of objects) are clear precursors of various contemporary non-Humean accounts, and who more generally offers a cohesive, powerful, and scientifically informed vision of natural reality as deeply and essentially causally interconnected.

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<sup>19</sup> See Wilson 2010 for discussion. As I observe in Wilson 2016, Hume's legacy has generated "decades of laboring in the imaginary legoland of Hume's Dictum" (100).

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