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Metaphysical Foundations of Causation: Powers or Laws of Nature?

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Abstract: In this article, I discuss Richard Swinburne’s case for the conception of substance causation, identified with the substances-powers-liabilities (SPL) account of causation, versus the conception of event causation, identified with alternative accounts. I specify the place of Swinburne’s argument in the debates about agent causation, and uncover reasons to be sceptical about the claims that substance causation is a genuine alternative to event causation, and that it helps to comprehend the specifics of the causation involved in free agency. I also advance considerations in favour of the relations-between-universals (RBU) account of causation that can make it preferable to the SPL account.

Keywords: event causation, agent causation, substance, disposition, power, law of nature

The notion and nature of causation is a matter of continuing debates in philosophy of several last centuries, since David Hume had highlighted its deeply problematic character. The debates are concerned primarily with two interrelated issues: first, of the general account of causation, and second, of the account of human action (and perhaps animal activity) as apparently involving specific kind of causation distinct from that in the inanimate nature. Among the recent discussions of both these issues, one of the most interesting and thought-provoking is to be found in Richard Swinburne’s book *Mind, Brain, and Free Will* (2013). In Chapter 5 of that book, Swinburne argues for the view that human action involves the kind of causation called “agent causation” (“whatever might be the case with non-intentional causation (e.g. the ignition of gunpowder causing an explosion, or a brain event

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causing pain), in intentional causation the cause is the person whose intention it is, a substance and not an event. A person having an intention (in acting) is simply that person intentionally exercising causal power” (Swinburne 2013, 2)), and, moreover, that “all causation is by substances (and not by events)” (Swinburne 2013, 140). To be more precise about the latter claim, Swinburne argues for the general account of causation he calls “the substances-powers-and-liabilities (SPL) account”, as preferable to two other general accounts, the (neo)Humean event regularity account and “the relations-between-universals (RBU) account”.

The purpose of this article is to evaluate Swinburne’s case for agent causation and to propose considerations in favour of the RBU account of causation that can make it preferable to the SPL account.

1 Agent Causation versus Event Causation

The most widely accepted notion of causation is that of one event causing another event. This is called “event causation”. The notion of “event” involved in this designation is somewhat wider than the usual one; it covers not only events in the usual sense, but *states* as well, so perhaps the more accurate designation would be “event/state causation”. At least, Swinburne stipulates such a widened use of the term “event” in his book, and points out that it is usual in contemporary philosophy:

“I now follow many philosophers in defining an event as either some substance (or substances, or event or events) having a certain property (more formally, the instantiation of a property in some substance or substances, or event or events) at a certain time, or the coming into existence or the ceasing to exist of some substance at some time” (Swinburne 2013, 6).

On this definition, the term “event” applies both to events in the usual sense (that implies some changes) and states (“some substance . . . having a certain property . . . at a certain time”).

The motivation for such a widening can be explained as follows. In the usual sense, “event” means something happening to something or somebody. Events happen with entities that can be called “substances”, and an event consists either in the emergence of some substance, or in some substance’s ceasing to exist, or in some substances acquiring/changing/losing some qualities or changing some of their relations to other substances. Let us call such events, in the usual sense, “dynamic events”. What is usually called “event causation” involves, as causes, not only dynamic events but also static ones, states. The full cause of an event consists of a set of preceding states and dynamic events. In some cases, the cause is entirely a matter of preceding states rather than dynamic events. For example,

in the case of spontaneous decay of a radium atom, there is a law of nature that determines the probability of the decay for any period of time, and, as far as we know, there is no preceding dynamic event that causes the decay. The cause of the decay is the very existence of the substance (radium atom) with certain properties in certain conditions. “Event causation” is usually understood in the wide sense that applies to such cases in which the cause is a state rather than a dynamic event.

The connection between the set of events and states that constitute the cause and the event-effect can be *deterministic* (as is usually the case when we have to do with macroscopic physical events) or *probabilistic*, as often happens with microscopic events (such as the decay of a radium atom, or happenings dealt with by quantum mechanics). In the cases of deterministic causation, the (full) cause predetermines the effect, so that whenever and wherever there is such a cause, such an effect is produced. A certain cause produces a certain effect necessarily, although this necessity is not the necessity of logical entailment; it is usually called “natural” or “nomic” necessity (the latter term implies that this necessity is a matter of the laws of nature). In the cases of probabilistic causation, the cause does not predetermine the effect (as one that will necessarily be produced) but predetermines the probability of a certain event happening in a certain spatial region within a certain time interval, or predetermines probabilities for a range of possible effects.

This picture of causation seems adequate with respect to events in inanimate nature; however, it seems to lack something essential when human actions (and perhaps, also, animal activities¹) are at issue. We are certainly capable to voluntarily, intentionally cause some things (produce some effects); and these our causing things does not seem to be a matter of something merely happening to us; it is we who do things intentionally. This our doing-causing things intentionally, rather than things happening to us, seems to require a different account, distinct from event causation. Such a required account of intentional (personal) causation is called “agent causation”.

1 Cf.: Martine Nida-Rümelin:

“... surely doings are not restricted to the human domain. The jump of a squirrel from one branch to the next, the yawning of a dog, the running away of a frightened mouse, all these are cases of genuine activities” (Nida-Rümelin 2007, 256). “Conscious animals are active in their behavior in a sense which excludes that they are microphysically determined” (Nida-Rümelin 2016, 339). “... the capacity to behave in an active manner is not restricted to the human domain and might already have occurred with the emergence of simple forms of consciousness in early stages of biological evolution” (Nida-Rümelin 2018, 61).

What does agent causation involve, or seem to involve? First of all, it seems that we have powers to do certain things, and we can use these powers or abstain from using them, on our own choosing. (If we couldn't choose so, there would be no real action; there would be only movements of our bodies necessarily produced by our preceding physical and mental states, or perhaps sometimes accidental to a degree.) In this, our actions seem to be crucially different from happenings in the inanimate world, as well as from automatic happenings with our bodies.

However, we can ask about causes of our choosings, or volitions themselves, and this makes the idea of agent causation, as distinct from event causation, very problematic. Our volitions or acts of choosing are themselves mental events (they occur at times with substances that are ourselves, mental subjects), and they don't emerge out of nothing; rather, they arise out of our preceding mental process (such as deliberation) that involves a chain of mental events/states (as well as brain events/states). Even if some of our volitions emerge out of nothing (though I am not sure how to make sense of this idea), this would mean that their emergences are purely accidental (entirely uncaused) events. This can be assimilated into the model of event causation, taking into account that this model already assimilates partially accidental (probabilistically caused) events: *any event, insofar as it is caused, is caused, deterministically or probabilistically, by preceding events and states*. And the idea of such purely accidental volitional events is hardly what an agent causalist means when he/she claims that it is myself (rather than any events in which I am involved) that causes my volitions/voluntary actions. It seems that if a person causes his/her volitions/actions, there should be something about this person that accounts for these – rather than some other – volitions/actions. But to say that there is something about a person that accounts for his/her volitions/actions, is to say that a person has some properties such that his/her volitions/actions at issue arise because he/she has these properties. And a person's (substance's) having a property at a time is (by Swinburne's definition) an event. So, volitions/actions of a person are caused (deterministically or probabilistically) by preceding events/states that involve the person (his/her character, thoughts, feelings, etc.).²

The point is that if (insofar as) a person's volitions arise out of his/her character and preceding mental process (such as deliberation), they should be essentially connected with the preceding chain of mental/personal events/states, so that

² A well-known passage of David Hume's *Treatise on Human Nature* is relevant here: "Where [actions] proceed not from some cause in the characters and dispositions of the persons who performed them, they . . . can neither redound to his honor, if good, nor infamy, if evil. . . . the person is not responsible for the [action] . . . as it proceeded from nothing in him that is durable or constant, and leave nothing of that nature behind them . . ." (Hume 1960, 411).

these events/states can be considered as causes of these volitions. It is not to deny that the agent's actions (especially, basic actions of *tryings*) are his/her doings; it is to see that these agents' doings are themselves events causally connected with preceding events. If so, it seems that "agent causation" is not distinct from event causation after all; rather, it should be some special case of event causation that involves such special mental states as volitions.

Agent causalists (Lowe 2008; O'Connor 2000) are not satisfied with such a result. They insist on the intuition that agent causation cannot be assimilated to event causation.³ However, they failed to provide an alternative account of the connection between our volitions and the mental profile of a person (that includes his/her character, beliefs, values, and the results of the preceding mental/deliberative process – relevant emotions, thoughts, etc.), so that on the one hand, there was essential connection (a person's volitions arise out of his/her mental profile at the moment), and on the other hand, that connection was neither a matter of a person's mental profile causing his/her volitions deterministically nor a matter of it making the emergence of certain volitions more or less probable. Swinburne (2013) does not seem to succeed in this any more than his predecessors. In fact, Swinburne's stipulation about his use of the term "free will" – an agent has free will insofar as he "acts intentionally without his intentions being fully determined by prior causes" (Swinburne 2013, 202) – is perfectly consistent with probabilistic causation.

Note that the distinction between reasons and causes, and the suggestion that reasons play a different role in bringing about actions than causes play in bringing about their effects, is not helpful here. There is an ambivalence in talk of "reasons", between what can be called reasons in subjective sense, reasons_s, and reasons in an objective sense, reasons_o. Some philosophers, when talking of reasons, mean values, beliefs, etc. of a person. Reasons in this (subjective) sense are events, and they stand in the causal relation to actions/volitions insofar as they make certain actions/volitions more or less probable. On the other hand, there is a pretty clear objective sense of "reasons": there can be reasons for acting a certain way, even if a person has no idea of these reasons. Such objective reasons (reasons_o) don't stand in the causal relation to actions. However, this is exactly because such reasons, insofar as a person is not aware of them, *have no influence on his/her actions at all*. On the other hand, *the awareness of such reasons* does have such an influence; it makes certain actions/volitions more or less probable, and a person being or getting aware of certain reasons is an event (in Swinburne's sense).

³ For example, E. J. Lowe claims that "[f]ree actions are *completely uncaused* – but they need not on that account be deemed to be merely random or chance occurrences" (Lowe 2008, 2).

There is, however, another path tried recently by agent causalists. It is to contend that although all causation, whether personal or impersonal, fits one model, the model should take substances rather than events as causes. Even in the case when a stone hits a window and the window gets broken, the cause is not an event (the stone hitting the window) but a substance, the stone. If so, then all causation is *substance causation* rather than *event causation*, and *agent causation* is a special kind of substance causation; its specific is that, unlike impersonal substance causation, it involves intentions. That way of treating the problem of agent causation was first elaborated by Lowe (2008). Swinburne (2013) follows suit but provides this approach with a different, more substantial grounding.

The idea of substance causation looks similar to that of agent causation. Persons, *qua* agents, have powers to do certain things and so produce certain effects, and their agency consists in using some of these powers. And we can think in these terms of impersonal causation as well: things have powers to produce certain effects, and causation is actualisation of some of these powers. Of course, there is an important difference: things don't choose whether to use their powers or not; no volition or intention is involved in impersonal substance causation. Nevertheless, this way of thinking about causation generally seems more in line with the intuition of agent causation in the case of persons.⁴

Lowe tried to make the case for substance causation, versus event causation, on a purely linguistic foundation. His argument is as follows. Causing is doing, and it is not events but substances that do things. Hence, it is not quite correct to say that effects are caused by events; it is correct to say that they are caused by substances. Admittedly, "whenever a substance causes an event, it does so by acting in a certain manner and . . . its acting in such a manner constitutes an event"; however, it is not "indicative of the reducibility of substance causation to event causation"; rather, "it is indicative of the very reverse of this" (Lowe 2008, 146). It is not the case that substance causation reduces to event causation; the case is that event causation reduces to substance causation.

I think that this argument has grave faults. To begin with, in cases of impersonal causation, the talk of substances as "acting in a certain manner" is misleadingly personalistic/intentional. Obviously, it is not the case that inanimate substances act, in the usual intentional sense of "action". All there is to such substances' "activity" is that because something happens to a substance and/or because the substance has some properties, certain effects ensue. Taking this into account, we can see that Lowe's argument mistakes a mere verbalism for

⁴ This conforms with "the view of several philosophers, from Reid to von Wright, that the notion of causation is one that is derived from the observations we make of ourselves when we perform intentional actions" (Searle 1983, 124).

a substantial issue. Take the example Lowe discusses on p. 3: “*The explosion of the bomb* caused the collapse of the bridge”. Of course, we can say as well “*The bomb, by exploding*, caused the collapse of the bridge”. These two statements obviously have the same meaning, and the fact that we can describe the same causal event in these two different ways shows neither that substance causation reduces to event causation nor that event causation reduces to substance causation. All it shows is that there is causation that can be described in two different ways, event-centered (“the explosion of the bomb caused . . .”) and substance-centered (“the bomb . . . caused”). There is nothing more correct in the second way than in the first. (Rather, the first way seems more natural;⁵ but this does not matter much.) There is a perfectly clear sense in which *the explosion of the bomb*, which is an event, caused another event, the collapse of the bridge. Admittedly, there is also a sense in which *a bomb*, which is a substance, caused the collapse of the bridge. The former sense is in no way deficient, as compared with the latter. Rather, it is more illuminating, for there merely being a bomb (a substance) is not enough for collapsing the bridge; to collapse the bridge, the bomb should explode, and this is an event. The fact that we can attribute causation to a substance, as well as to an event that involves this substance, does not bring this causation any closer to an intentional action (agent causation), – if we don’t think that the bomb *has chosen to explode* because it *intended to collapse the bridge*.

Swinburne makes a different case for substance causation. He considers three main general accounts of causation – the (neo)Humean regularity account, on which causation is a matter of regularities that happen to be present in relations between events, the relations-between-universals (RBU) account, on which causation is fundamentally a matter of laws of nature that connect events-causes with events-effects, and the substances-powers-liabilities (SPL) account, on which causation is fundamentally a matter of powers inherent in substances. He argues for the preferability of the SPL account, and identifies it with the notion of substance causation (accordingly, he identifies the notion of event causation with the other two accounts).

However, these identifications are dubitable. Even if the SPL account is correct, substances release their powers law-abidingly in accordance with their properties, relations with other substances, and their changes. And substances having or changing properties and relations are events. We still can describe any causal chain as having some event/state as a cause and some event as an effect (like in the example of “*The explosion of the bomb* caused the collapse of

⁵ Swinburne admits this: “It is . . . less clumsy to talk . . . of inanimate causation as relating token events, rather than to talk in terms of what I have claimed to be the more accurate account of these concepts . . .” (Swinburne 2013, 140).

the bridge”), and such a description is perfectly correct. So I don’t think that Swinburne’s case for the SPL account of causation, if it succeeds, undermines the notion of event causation and replaces it with another notion.

However, the issue of the best account of metaphysical foundations of causation – in particular, the relative advantages of the SPL account and the RBU account – is of high interest on its own, independently of the issue of agent causation. In the next section, I propose the revision of the issue and advance some considerations that can change the balance in favour of the RBU account.

2 The RBU Account versus the SPL Account

Swinburne discusses three general accounts of causation: the (neo)Humean event regularity account, the RBU account and the SPL account. We can represent the relationship between the three accounts in the form of the table.

Account	Ontological foundation of causation	Derived causation-related notions
The event regularity account	Singular substances and their properties, singular events	Causation, laws of nature, causal dispositions (powers, liabilities) of substances
The RBU account	Singular substances, their intrinsically non-causal properties, laws of nature	Causal dispositions (powers, liabilities) of substances
The SPL account	Singular substances and their causal dispositions (powers, liabilities)	Laws of nature

According to the event regularity account, all there is fundamentally are individual things that instantiate properties at times (or perhaps just instantiations of properties at times and places), and all there is to what we call “causation” (laws of nature, causal dispositions of things) are just some regular patterns that happen to take place between such instantiations. It is not the case that these regularities are there in the world because there are laws of nature; the laws of nature do not explain regularities. It just unexplainably happens that there are certain regularities, and so called laws of nature are just their descriptions. On this view, it is incorrect to say, for example, that for every pair of bodies at every time, these bodies gravitate to one another with force that accords to a certain mathematical formula (is directly proportional to their masses and inversely proportional to the squared distance between them) *because there is the law of nature* called “Newton’s law of gravity”. It just unexplainably happens that for every pair

of bodies at every time, the force of their mutual gravitation (or the way they tend to acquire acceleration) turns out to accord to this mathematical formula, and we designate this regularity as “Newton’s law of gravity”.

The main criticism of this account is that it provides no resources for the explanation of particular events and of those regularities among them from which the laws of nature and causal dispositions are taken to be derived: all such regularities should be a matter of a superhugely improbable coincidences among accidental singular happenings. As Swinburne writes, “the event regularity theory is not a theory about how the world works and so not an explanatory theory of anything in this sense. . . . The event regularity theory does not provide an explanation of event regularities; it merely states that they occur” (Swinburne 2013, 130–131). I would add that this account has just as unsatisfactory consequence with respect to predictions. We make (and act upon) predictions based on the supposition that certain regularities that were observed so far will (are likely to) continue in future. This makes perfect sense, if there are laws of nature that hold at any time and place, and if the regularities at issue have place *because of* these laws. However, if there are no such regularity-grounding space-time invariant laws of nature, then the fact that there happened to be some regular patterns among the events observed so far provides us with no reason at all to expect that events in future (and generally, events that were not observed so far) will exhibit the same or similar pattern.

If the event regularity account is discarded, we are left with the alternative of the RBU account and the SPL account.

On the SPL account (Ellis 2001; Harré and Madden 1975), there are, at the ontological foundation, individual entities (substances) with intrinsic properties, some (if not all) of which have causal nature. Such properties are called “powers”, “dispositions”, or “liabilities”. (Hence the name – “the substances-powers-liabilities account”.) Powers (dispositions, liabilities) are capacities inherent in substances to influence other substances and to be influenced by them in certain regular ways. (This influence eventually have to do with the character of movement; the main physical notion that represents expression of powers, *force*, is what imparts acceleration to bodies, and the magnitude of force is proportional to the magnitude of the acceleration it imparts.) The number of substances in the world is incalculably huge; but the powers (and properties generally) they have are of several (not many) fundamental kinds, and they have measurable magnitudes. The constancy of fundamental substances, and of kinds and magnitudes of powers they have, results in regularities in the world generalizable as laws of nature. *On this account, laws of nature are ontologically derived from powers that individual substances have.*

With the RBU account (Armstrong 1997; Dretske 1977; Maudlin 2007; Tooley 1977), the order of fundamentality/derivability is opposite: the laws of nature are fundamental, and powers (dispositions, liabilities) are derived. According to this account, the ontological foundation contains (1) entities with *intrinsic properties that are not causal on their own* and (2) laws of nature that make events (instantiations of properties) of some kinds cause events of some other kinds. Laws of nature are sort of ontologically fundamental space-time invariant features of the world that underlie all causal relations. Swinburne calls this account “the RBU account” because according to it, laws of nature are relations that tie certain *kinds* of events (universals) as causes and effects. The relations at issue are not logically necessary (as, for example, mathematical relations) – there is no incoherence in conceiving a world in which such causes would not produce such effects, in which causal relations would be different from those that hold in the actual world. However, they are naturally, or nomologically necessary, in the sense that they hold always and for all objects (or for all instantiations of the universals at issue) in the actual world.

With respect to these two accounts of causation, Swinburne argues that they are nearly equally good; however, the SPL account has some advantages:

- (1) “. . . the SPL account can be expounded in terms of readily accessible concepts. Powers to cause and liabilities to exercise them are familiar things – humans have powers to cause things . . . ; and dinner plates and glasses have liabilities to break. By contrast, the RBU account needs to be expounded in terms of concepts far from readily accessible; ‘universals’ tied together in a timeless heaven. We should not postulate such strange things as relations of natural necessity between universals unless we need to do so in order to describe or explain phenomena. For this reason we should prefer the SPL account of laws of nature and so of causation . . . ” (pp. 130–131)
- (2) The SPL account “represents the two kinds of causation” – intentional (characteristic for human agency) and inanimate – as “species of the same genus” and “as far more similar to each other than do the other accounts” (pp. 138, 139).

However, these advantages are questionable. Against (2) it can be noted that the RBU account, as well as the SPL account, “represents the two kinds of causation” – intentional (characteristic for human agency) and inanimate – as “species of the same genus”. As for (1), the supporter of the RBU account can agree that “we should not postulate such things as relations of natural necessity between universals unless we need to do so in order to describe or explain phenomena” but then argue that the RBU account *is needed to explain* some important *phenomena*.

I see two problems for the SPL account – a general problem having to do with physical causation and a specific problem for an interactionist psychophysical dualist (like Swinburne) having to do with mental causation.

The first problem is the problem of law-abiding connections between powers (causal dispositions, liabilities) of physical entities and their intrinsic properties (“intrinsic nature”) that are not powers or causal dispositions and are not reducible to such powers/dispositions and spatial relations. It is closely connected with an important problem that was influentially highlighted by Bertrand Russell (1927) (although it has much to do with the points made much earlier by George Berkeley and Immanuel Kant), and later mooted by such philosophers as David Armstrong⁶, Galen Strawson⁷, David Chalmers⁸, John Foster (Foster 2008), Howard Robinson⁹. The general point can be made as follows.

All the physical properties known to and knowable for physical science are

- (1) spatial relations (relative locations) between pieces of matter,
- (2) changes of this relations with time and regularities in these changes (which include such properties as velocity, acceleration, etc.),
- (3) powers/dispositions/liabilities of pieces of matter to influence the character of movement of other pieces of matter and to be influenced, in the character

6 “. . . the properties of the physical objects that physicists are prepared to allow them, such as mass, electric charge, or momentum, . . . show a distressing tendency to dissolve into relations that one object has to another. What, then, are the things that have these relations to each other? Must they not have a non-relational nature if they are to sustain relations?” (Armstrong 1968, 282).

7 “This is the ‘structuralist’ point familiar in the 1920s and 1930s . . . It consists in the observation that the propositions of physics are equations, equations that contain numbers, terms that refer without describing, many other mathematical symbols, and nothing else; and that these equations, being what they are, can only tell us about the abstract or mathematically characterizable structure of matter or the physical world without telling us anything else about the nature of the thing that exemplifies the structure” (Strawson 2010, xix-xx).

8 “. . . by the character of physical explanation, physical accounts explain *only* structure and function, where the relevant structures are spatiotemporal structures, and the relevant functions are causal roles in the production of a system’s behaviour” (Chalmers 2003, 104–105).

9 “. . . we are left with a conception of body which makes it spatial and dispositional only” (Robinson 1982, p. 113). “. . . modern science . . . sees the basic constituents of the material world as being purely dispositional entities which are characterized solely by reference to their ability to act upon and influence things in their vicinity. . . . we are presented with an ontology which is avowedly devoid of quality, containing only quantitatively discernible forces, fields and energies, all of which are entities existing only as forms of disposition, power and influence” (Robinson 1982, 109, 113).

- of their own movement, by other pieces of matter or space (all such properties as mass, electric charge etc. can be considered as such powers/dispositions),
- (4) powers/dispositions/liabilities of areas of space (described by the notions of fields and waves) to influence law-abidingly the character of movement of pieces of matter, or (in quantum mechanics) to determine probability of detecting microparticles at certain locations.

In other words, all we have in the picture are spatial relations, movements and powers to exert and suffer influence on such movements. However, is this all there is to matter? Many philosophers¹⁰ think so: matter (and, really, all there is in the world) is a network of spatial relations and dispositions (powers) for changing these relations. Let us designate this view as *dispositionalism*. Against dispositionalism, other philosophers object that the idea of the world being such a network makes no sense, is unintelligible: for there to be a network of relations, there should be something in the nodes of this network that have some properties besides spatial relations and dispositions to change spatial relations – some *intrinsic qualities*. Such intrinsic qualities are sometimes dubbed technically “quiddities”, and the view that things should have such qualities (that dispositionalism cannot be true) is sometimes called “quidditism”.¹¹ Swinburne himself sides with quidditism, by stating:

“... if there were no properties other than powers, all properties in that case would be powers to produce powers, and these would be powers to produce other powers, and so on ad infinitum. ... In the end there must be more to some properties, and so to the events which involve them, than powers to produce yet further events” (Swinburne 2013, 25–26).

If this point is admitted, how this bears upon the choice between the SPL account and the RBU account?

To begin with, let us note that the RBU account implies quidditism, whereas the SPL account is congenial with dispositionalism. It is not the case that the SPL account is inconsistent with quidditism; however, their combination is rather unnatural and awkward.

10 See, for example, (Bird 2007; Chakravartty 2003; Harré and Madden 1975; Mumford and Anjum 2011; Shoemaker 1980; Whittle 2008).

11 For a more detailed discussion of this problem, see (Foster 2008; Langton 2004; Lewis 2009; Robinson 1982, 108–123).

Consider the question: If quidditism is true (pure dispositionalism is mistaken), then how powers/dispositions that things have relate with their fundamental intrinsic qualities and laws of nature? Logically, there are two possibilities that correspond to the SPL account and the RBU account respectively¹²:

- (SPL_q) Things have – ontologically fundamentally – both quiddities and powers; as for the laws of nature, they are ontologically derived abstractions/generalizations from the foundation of powers that concrete things individually have;
- (RBU) Things have only quiddities *in the ontologically fundamental way*; (some of) the laws of nature are also ontologically fundamental – they are spatiotemporally invariable properties of the world (rather than of individual things); as for powers, they are ontologically derived from the foundation constituted by quiddities and the laws of nature (we can say that the laws of nature impart things that have certain quiddities with powers to influence movements or have some other effects on other things that have such quiddities).

I think that there is a grave deficiency with the SPL_q – it is that it divorces powers from quiddities, make them essentially unconnected. As far as I see, an adherent of the SPL_q has two *ad hoc* moves available to link powers to quiddities.

The first move, available to a theist, is to hold that although the SPL_q, on its own, does not provide for connection between powers and quiddities, God has specially provided for this connection by imparting all things, individually, with powers that relate law-abidingly with their quiddities.

The second move is to hold that the correspondence of powers to quiddities is due to the laws of nature.¹³ The grave fault of this move is that, contrary to the initial SPL_q account and its crucial motivation, it makes such laws of nature ontologically fundamental rather than derived. The resulting fundamental ontology is obviously uneconomic: it includes (1) quiddities, (2) powers, and (3) laws of nature that ensure the correspondence between powers and quiddities; however, if we have (1) and (3), then (2), as ontologically fundamental, is superfluous. If we retain (1) and (3) and dispense with (2), the result is nothing but the RBU account.

The second problem for the SPL account arises if it is conjoined with interactionist psychophysical dualism (as in the case of Swinburne).

¹² Note that the SPL account – but not the RBU account – is consistent with pure dispositionalism as well, or even better.

¹³ This move is available both for an atheist, who can take the laws of nature as a matter of fundamental brute fact, and for a theist, who can think of the laws of nature as instituted by God.

Consider the case of mental-to-physical causation, such as my moving my hand. It involves some mental state (such as my volition or trying to lift my hand) and the physical effect, the movement of my hand, mediated by some physical events in my brains. Such causal connections are unified among human beings: phenomenally the same mental states produce, as their effects, physical events of the same kind. How can we explain this? There are, again, two possibilities.

The first one is available only to a theist: she can hold that God provides all people individually with powers in a unified way.

The second possibility is that the fact that with different people the same kinds of mental events produce the same kinds of physical effects is to be explained by there being appropriate causal psychophysical laws of nature. But such explanation is possible only if these laws of nature are ontologically fundamental rather than derived from the individual causal powers inherent in mental subjects. However, if such laws are ontologically fundamental, then ontologically fundamental causal mental-to-physical powers are superfluous.

The general outcome of this discussion is that

- for an atheist who admits that physical entities should have fundamental intrinsic qualities (that are not powers) and that their causal powers should be law-abidingly connected with their intrinsic qualities, as well as for an atheist who is an interactionist dualist, the SPL account is deficient;
- for a theist who either holds the outlined position with respect to intrinsic qualities of matter or is an interactionist dualist, the RBU can be preferable because it is more economical in supposing that God settles causal matters once and for all by establishing the corresponding laws of nature rather than individually imparting particular material entities with causal powers that law-abidingly connect with their intrinsic qualities and individually imparting mental subjects with causal powers in unified ways.

These advantages of the RBU account can outweigh the reasons in favor of the SPL account pointed out by Swinburne.

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